February 1976 Number 378-Part I

Solar-Geophysical Data prompt reports

Data for January 1976–December 1975

Explanation of Data Reports Issued as Number 366 (Supplement) February 1975

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Solar - Geophysical Data

NO. 378 FEBRUARY 1976

Part I (Prompt Reports)

DATA FOR
JANUARY 1976
DECEMBER 1975

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

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SOLAR - GEOPHYSICAL DATA

No. 378

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

JANUARY 1976

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

BOULDER 11/0100Z MAGSTORM BEGINS GRADUALLY 10/1450Z K=5 11/0000Z and 11/0100Z.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc[a]	Alert Situations
01	01	31	00	75	05	-	0	0	0		01	SPOTNIL		SOLQUIET MAGQUIET
02	02	01	00	75	03	-	0	0	0		02	SPOTNIL		SOLQUIET MAGALERT 03/05
03	03	02	11	74	03	S08W50	0	0	0		03	S08W50	Q	SOLQUIET MAGNIL
04	04	03	00	74	09	-	0	0	0		04	SPOTNIL		SOLQUIET MAGQUIET
05	05	04	00	74	08	-	0	0	0		05	SPOTNIL		SOLQUIET MAGQUIET
06	06	05	00	74	08	-	0	0	0		06	SPOTNIL		SOLQUIET MAGQUIET STRATWARM ALERT/ TUESDAY/ MINOR STRATWARM EXISTS, MINUS 15°C NEAR 55N 110E at 10 MB UPPER STRATOSPHERE WARMING MOVED FROM SUBTROPICS ATLANTIC TO SIBERIA DECEMBER 20 TO JANUARY 4.
07	07	06	00	74	07	-	0	0	0		07	SPOTNIL		SOLQUIET MAGQUIET STRATWARM ALERT/ WEDNESDAY/ MINOR STRATWARM EXISTS. WARM SYSTEM SLOPES UPWARD FROM NEAR 55N 110E AT 10 MB to NW SIBERIA NEAR 2 MB.
08	08	07	00	74	06	-	0	0	0		08	SPOTNIL		SOLQUIET MAGQUIET STRATWARM ALERT/ THURSDAY/ MINOR WARMING CONTINUES IN MID STRATOSPHERE OVER CENTRAL SIBERIA.
09	09	08	00	73	04	-	0	0	0		09	SPOTNIL		SOLQUIET MAGQUIET STRATWARM ALERT/ FRIDAY/ STRATWARM ENDS. DECREASING TEMPERATURES LOWER STRATOSPHERE. UPPER LEVEL WARM AIR ANOMALY DEVELOPING EASTERN USA EASTWARD TO EUROPE WITH MAXIMUM OVER SIBERIA.
10	10	09	00	72	03	-	0	0	0		10	SPCTNIL		SOLQUIET MAGQUIET
11	11	10	00	73	13	-	0	0	0	A MINOR GEOMAGNETIC DISTURBANCE STARTED 10/1450Z IS BELOW STORM LEVEL	11			SOLQUIET MAGALERT 11/12
12	12	11	27	75	20	S07W25 S11E83	0 1	0 0	0 0	MINOR MAGSTORM IS DECREASING	12	S07W25 S11E83	Q Q	SOLQUIET MAGALERT 12
13	13	12	38	80	14	S07W43 S11E68	0 2	0 1	0 0		13	S07W43 S11E68	Q E	SOLQUIET MAGNIL
14	14	13	28	83	10	S08W56 S11E58	0 3	0 0	0 0		14	S08W56 S11E58	Q E	
15	15	14	24	86	08	S08W72 S11E42	0 15	0 0	0 0		15	S08W72 S11E42	Q E	SOLQUIET MAGQUIET
16	16	15	28	83	05	S11E29	3	0	0		16	S11E29	Q	MAGQUIET
17	17	16	29	81	06	S11E15	1	0	0		17	S11E15	Q	SOLQUIET MAGQUIET
18	18	17	27	79	09	S11E03	0	0	0		18	S11E03	Q	SOLQUIET MAGQUIET
19	19	18	28	79	08	S11W10	0	0	0		19	S11W10	Q	SOLQUIET MAGQUIET
20	20	19	21	78	07	S11W23	1	0	0		20	S10W23	Q	SOLQUIET MAGALERT 21/26
21	21	20	15	77	09	S11W37	1	0	0		21	S11W37	Q	SOLQUIET MAGALERT MINOR RECURRENCE 21/25
22	22	21	14	74	21	S11W54	0	0	0		22	S11W54	Q	SOLQUIET MAGALERT MINOR RECURRENCE 22/25
23	23	22	15	74	17	S11W67	0	0	0		23	S11W67	Q	SOLQUIET MAGALERT MINOR RECURRENCE 23/25
24	24	23	11	72	15	S11W81	0	0	0	MINOR MAGNETIC DISTURBANCE CONTINUES	24	S11W81	Q	SOLQUIET MAGALERT MINOR 24/25
25	25	24	00	71	15	-	0	0	0		25	SPOTNIL		SOLQUIET MAGALERT MINOR 25
26	26	25	00	70	10	-	0	0	0		26	SPOTNIL		SOLQUIET MAGNIL
27	27	26	00	70	04	-	0	0	0		27	SPOTNIL		SOLQUIET MAGQUIET
28	28	27	12	69	04	S05W04	0	0	0		28	S05W05	Q	SOLQUIET MAGQUIET
29	29	28	00	69	04	-	0	0	0		29	-		SOLQUIET MAGQUIET
30	30	29	23	70	07	S04W30 N07E36	0 0	0 0	0 0		30	S04W31 N07E35	Q Q	SOLQUIET MAGQUIET
31	31	30	11	71	07	S04W42	0	0	0		31	S04W42	Q	SOLQUIET MAGQUIET
32	01	31	00	71	21	-	0	0	0	A MINOR GEOMAGNETIC DISTURBANCE STARTED GRADUALLY 31/0430Z	01	SPOTNIL		SOLQUIET MAGALERT MINOR 01/02

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

1975 FINAL — 1976 PROVISIONAL

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
1	30	0	0	0	26	7	23	37	14	15	0	7	0
2	30	18	9	0	33	11	18	30	16	8	0	23	0
3	28	27	14	0	34	8	22	46	19	9	7	23	0
4	19	27	13	0	32	7	16	76	29	10	18	23	0
5	18	20	14	0	30	7	23	93	25	8	22	21	0
6	23	26	14	0	20	7	33	104	24	10	27	18	0
7	29	34	7	7	14	0	23	102	24	9	30	20	0
8	29	29	14	17	0	0	19	89	23	16	33	13	0
9	37	22	20	15	0	0	16	83	17	15	30	8	0
10	32	18	20	7	8	0	23	80	10	8	26	0	0
11	30	13	19	0	0	9	29	72	10	8	30	0	0
12	29	19	15	0	0	0	33	45	16	10	24	0	20
13	32	9	15	0	0	0	43	52	19	21	22	0	26
14	13	8	17	0	7	0	46	34	17	26	29	7	36
15	20	8	24	0	7	8	43	31	8	21	28	7	20
16	19	8	30	0	8	19	39	26	14	16	28	7	22
17	16	0	29	0	0	17	25	19	14	16	30	9	24
18	20	0	22	0	8	12	32	16	18	16	33	8	20
19	20	0	20	0	0	15	36	8	13	15	36	7	18
20	23	7	14	0	0	0	28	22	30	10	35	0	16
21	16	8	9	0	0	7	30	23	27	7	31	0	11
22	16	0	0	0	8	0	27	7	23	0	23	0	10
23	15	0	0	7	8	12	19	14	0	0	12	0	10
24	7	12	0	8	7	20	30	9	0	7	11	13	0
25	7	9	0	7	0	24	33	11	0	0	9	14	0
26	7	0	7	7	0	33	30	16	0	0	7	8	0
27	0	0	0	22	7	38	29	18	0	0	0	0	7
28	7	0	0	21	13	36	26	10	0	0	0	0	0
29	7		0	16	0	23	20	10	0	0	0	0	14
30	7		0	20	0	22	27	21	7	0	0	0	8
31	0		8		8		34	21		0		0	0
MEAN	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	8.5

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1975 — 1976

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN
1	79.1	70.8	70.7	70.2	76.3	71.4	78.7	91.6	87.0	76.4	70.4	72.1	72.1
2	75.6	72.3	72.4	71.2	81.1	73.0	76.5	95.4	87.9	76.1	71.4	74.8	71.2
3	77.1	74.3	73.4	72.2	79.6	70.8	77.1*	97.0*	87.8	76.4	73.0	74.3	71.3
4	74.4	75.4	72.8	73.0	79.6	70.4	76.8	104.6	92.8	76.3	75.4	74.1	71.8
5	73.7	76.5	71.3	73.7	79.4	69.3	76.8	107.9	94.4	76.1	78.9	77.4	71.9
6	73.8	81.1	72.4	73.7	75.9	68.2	76.1	120.0*	94.0	75.1	80.1	75.8	71.7
7	75.7	79.4	71.9	74.3	73.6	68.1	74.1	123.2	91.1	74.3	80.5	73.7	71.6
8	77.7	78.8	72.5	73.6	71.9	67.5	74.0	123.7	88.5	74.0	80.9	76.0	70.9
9	79.9	77.1	73.8	73.4	70.6	67.7	73.3	115.9	84.3	75.4	78.8	73.3	69.4
10	80.5	76.7	73.3	72.4	70.1	68.8	73.0	116.5	82.5	74.3	78.9	73.3	70.5
11	81.2	74.8	73.0	72.3	69.8	68.1	77.6	107.3	81.1	73.3	78.6	74.3	72.1
12	82.4	74.9	74.2	70.8	69.6	68.4	82.7	104.5*	78.2*	74.8	79.9	73.4	76.9
13	80.4	73.7	75.6*	70.7	69.1	67.9	88.5*	98.0	75.2	79.0	79.2	72.8	0.0
14	77.7	72.0	75.0	69.7	68.7	68.5	89.0	90.9*	74.2	80.0	82.7	71.8	82.1*
15	77.4	69.7	73.4	69.7	68.0	68.9	85.6	86.0	74.1	80.3	83.7	71.8	80.4
16	76.5	71.4	76.0	69.2	68.5	71.4	83.6	82.9	74.3	78.5	87.6	70.5	78.1
17	74.7	69.3	75.3	69.6	68.3	70.2	81.2	79.0	74.8	78.9	88.9	70.5	76.6
18	75.8	68.3	74.2	68.3	68.7	70.2	82.8	76.4	76.2	79.2	90.8*	69.6	76.7
19	74.1	70.0	72.9	67.5	68.9	71.0	81.9	76.7	76.2	78.0	93.0*	69.1	75.2
20	73.8	69.5	71.9	68.0	68.6	72.5	83.3	77.2	76.5	77.1	90.9	69.7	74.6
21	74.5	68.9	71.2	68.2	69.7	68.7	83.1	80.0	76.7	75.7	86.6	69.0	72.1
22	73.6	68.3	69.3	67.8	70.8	69.9	82.7	79.5	75.3	74.2	81.5	68.9	70.9
23	72.7	68.3	67.6	68.7	70.6	72.9	82.0	76.8	76.1	74.3	77.2	69.0	70.2
24	71.0	68.6	67.4	69.3	70.6	75.9	79.3	77.0	76.8	72.7*	74.7	71.4	68.5
25	70.3	69.4	67.5	71.8	70.2	77.7	79.1	80.6	76.7	72.1	73.7	71.0	68.2
26	70.5	68.8	68.6	72.1	69.0	79.8	80.0	81.3	76.7	71.9	71.9	71.8	68.2
27	70.1	69.4	67.3	74.4	70.5	81.5	78.5	83.6	75.7	72.1	70.7	72.5	67.2
28	70.7	68.6	67.8	74.8	70.6	80.7	76.5	83.3	76.1	71.7	70.4	71.5	67.1
29	70.4		69.8	73.2	71.0	79.4	75.5	84.7	75.9	70.8	70.9	72.5	67.4
30	70.5		69.0	73.4	71.0	78.8	78.9	86.2	75.8	70.2	70.6	71.9	68.9
31	70.1		70.5		71.1		81.9*	86.7		69.9		72.1	69.1
MEAN	75.0	72.4	71.7	71.2	71.6	71.9	79.7	92.7	80.4	75.3	79.1	72.3	72.4

* adjusted for burst

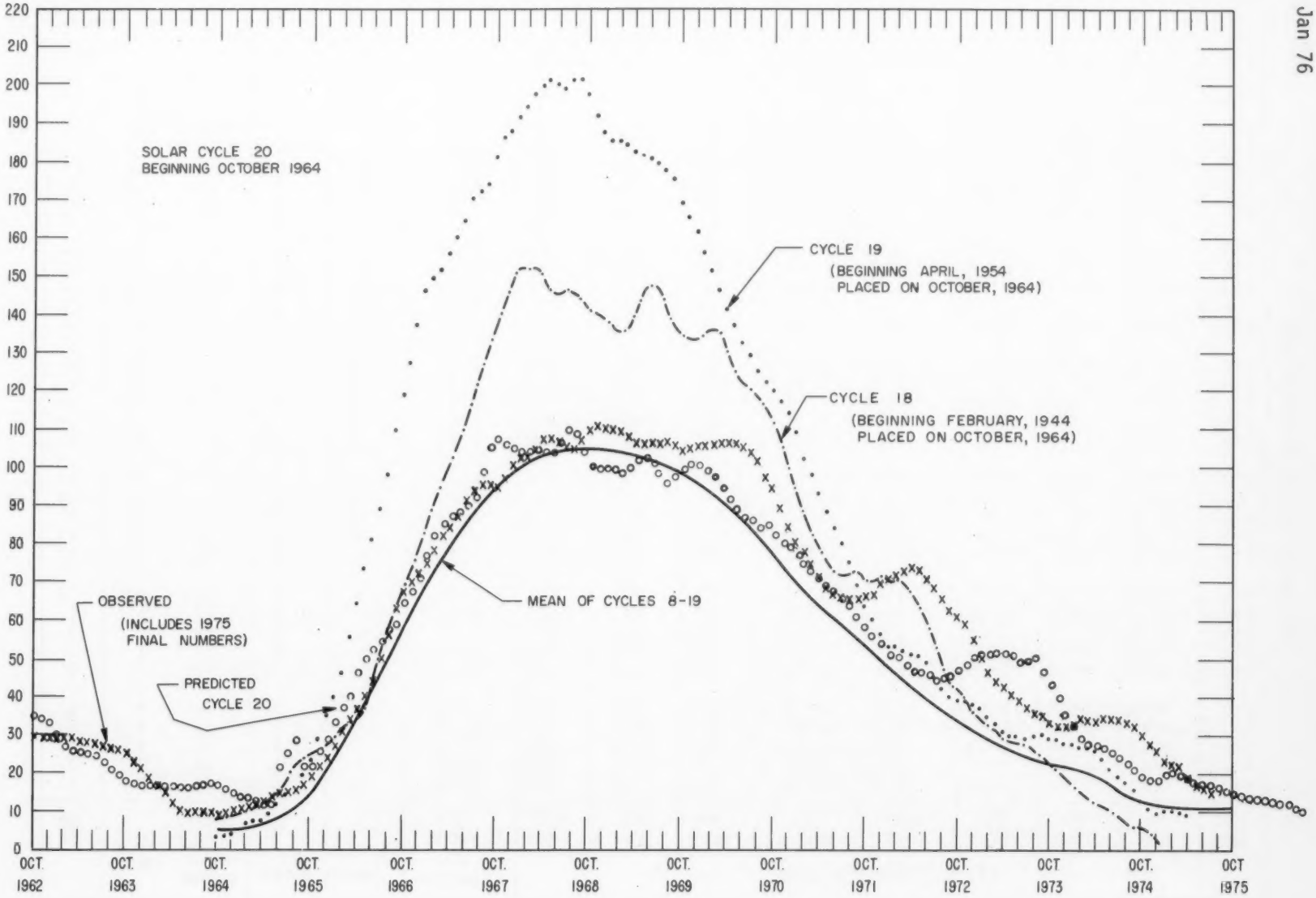
DAILY SOLAR INDICES

JANUARY 1976

DEC 1975	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	1	16	0	2	74.6	523	272	116	72.1	70.6	49.6	38.3	21.8	7.4
2	2	17	0	0	73.6	524	274	117	71.2	71.3	49.6	37.7	21.4	7.4
3	3	18	0	0	73.7	525	273	118	71.3	71.4	49.5	38.4	21.4	7.6
4	4	19	0	0	74.3		273	119	71.8	71.6	49.3	39.1	21.4	7.5
5	5	20	0	0	74.4	525	276	118	71.9	71.9	51.0	42.2	23.0	7.9
6	6	21	0	0	74.1	525	272	118	71.7	70.8	50.1	37.4	21.0	8.3
7	7	22	0	0	74.0	524	270	118	71.6	70.8	50.7	40.8	20.6	8.1
8	8	23	0	0	73.3	523	272	117	70.9	69.8	49.1	40.4	20.9	8.2
9	9	24	0	0	71.8	523	273	118	69.4	69.5	47.6	39.9	21.1	8.3
10	10	25	0	0	72.9	525	274	117	70.5	70.0	48.3	39.9	22.0	8.6
11	11	26	0	3	74.6	530	276	118	72.1	71.4	---	---	23.6	8.5
12	12	27	20	22	79.5	528	280	124	76.9	76.4	---	---	24.0	9.5
13	13	1	26	33	82.7	525	283	130	80.0	79.2	---	---	33.9	28.3
14	14	2	36	34	84.9*	530	---	---	82.1*	---	---	---	---	---
15	15	3	20	25	83.1	530	282	127	80.4	79.1	52.6	36.7	23.5	10.6
16	16	4	22	26	80.7	530	281	126	78.1	77.8	53.2	34.5	22.9	9.2
17	17	5	24	20	79.1	531	279	123	76.6	76.0	49.1	36.8	23.0	10.7
18	18	6	20	19	79.2	526	282	122	76.7	76.1	51.6	37.9	24.5	10.1
19	19	7	18	16	77.7	528	285	122	75.2	74.7	50.4	39.0	26.2	16.1
20	20	8	16	14	77.1	522	280	120	74.6	74.6	52.0	36.7	21.1	8.1
21	21	9	11	12	74.5	521	274	120	72.1	71.4	50.2	35.5	24.5	11.0
22	22	10	10	10	73.2	522	---	---	70.9	---	---	---	---	---
23	23	11	10	10	72.4	521	277	118	70.2	69.8	50.3	35.3	23.0	8.2
24	24	12	0	2	70.7	520	275	118	68.5	69.9	54.9	40.0	27.2	9.4
25	25	13	0	0	70.4	524	275	117	68.2	68.5	46.0	38.1	21.3	8.6
26	26	14	0	0	70.4	525	273	118	68.2	66.6	48.3	36.5	20.0	8.3
27	27	15	7	3	69.3	526	271	117	67.2	65.6	48.6	35.1	19.3	7.9
28	28	16	0	1	69.2	525	269	116	67.1	66.1	48.9	33.5	20.1	7.5
29	29	17	14	2	69.5	525	267	115	67.4	66.6	49.2	32.0	21.3	7.2
30	30	18	8	4	71.0	525	273	116	68.9	68.3	49.1	33.6	24.2	8.1
31	31	19	0	1	71.2	525	273	115	69.1	68.6	48.3	33.7	24.2	8.5
MEAN			8.5	8.3	74.7	525	275	119	72.4	71.5	49.9	37.3	22.8	9.5

* Adjusted for burst.

7 Jan 76



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.8
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.9	46.5	44.2	42.7	40.7	39.1	37.5	36.1	34.4	32.6	31.8	31.5
1974	32.7	34.4	34.0	33.9	34.6	34.5	34.1	33.1	32.1	30.2	27.5	25.2
1975	23.0	22.1	21.3	18.6	16.8	16.0	15.0	14.7	14.2	13.7	13.3 (--)	12.9 (--)
1976	12.5 (--)	12.1 (--)	11.7 (--)	11.3 (--)	11.0 (--)	10.7 (--)	10.4 (--)					

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1975.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

Hα SOLAR FLARES

JANUARY 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE JAN	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PALE	01	1909	1911	1914	S 9	W46	.715		29.3	5	SF	3	C		6		
ARCE	05	0915E		0940D	N06	W90	1.000		29.6	25D	S		C	0930	15		
RAMY	11	2139	2140	2148D	S 8	E80	.982		17.9	9D	SF	3	C		72		FDE
PALE	11	2140	2141	2153	S11	E82	.987		18.1	13	SN	2	C		46		DE
MITK	12	0406	0411	0418	S11	E78	.974		18.0	12	SN		C	0411	60		E
HTPR	12	0828	0830	0832	S11	E77	.970		18.1	4	SF		C	0830	30		E
HTPR	12	0928	0928	0930	S11	E77	.970		18.2	2	SF		C	0928	20		
HTPR	12	1040	1045	1110	S12	E75	.961		18.1	30	SF		C	1045	20		E
HTPR	12	1113	1123	1140	S12	E75	.961		18.1	27	SN		C	1129	40		
HTPR	12	1319E		1328	S12	E73	.951		18.0	9D	SF		C	1324	20		
HTPR	12	1350E		1355	S12	E73	.951		18.1	5D	SF		C	1353	20		E
HTPR	12	1400		1404D	S12	E73	.951		18.1	4D	SN		C	1401	40		
RAMY	12	1500E	1501	1508D	S10	E76	.966		18.3	8D	SF	3	V		48		DE
PALE	12	1833	1857	1932	S12	E74	.956		18.3	59	SF	2	C		40		
PALE	12	1945	1957	2002	S12	E73	.951		18.3	17	SN	2	C		30		DE
PALE	12	2049	2053	2056D	S12	E72	.946		18.3	7D	SN	2	C		26		DE
PALE	12	2109E	2110U	2117D	S11	E72	.946		18.3	8D	SN	2	C		40		DE
PALE	12	2200	2206	2247D	S12	E68	.922		18.0	47D	SN	2	C		51		DE
TEHR	13	0858E	0903U	0916D	S14	E62	.877		18.0	18D	SB	2	C		48		H
HTPR	13	0858	0900	0914	S12	E65	.900		18.2	16	SN		C	0900	40	.7	
BUCA	13	0859		0925	S12	E64	.893		18.2	26	SN		C	0901	97	2.1	E
ATHN	13	0903E	0905	0916	S14	E61	.869		18.0	13D	SB	3	C		32		DE
HTPR	13	1029	1031	1037	S12	E65	.900		18.3	8	SF		C	1031	20	.3	E
HTPR	13	1402	1421	1426	S12	E63	.885		18.3	24	SF		C	1421	20	.3	E
RAMY	13	1421E	1422U	1426	S10	E62	.878		18.2	5D	SF	4	C		50		FDE
RAMY	13	1421E	1422U	1426	S10	E62	.878		18.2	5D	SF	4	V		50		FDE
PALE	14	0314	0317	0320	S12	E52	.783		18.0	6	SB	3	C		41		H
MITK	14	0315	0316	0325	S11	E57	.833		18.4	10	SF		C	0316	50	1.0	D
HTPR	14	0827	0829	0833	S12	E53	.793		18.3	6	SF		C	0829	40	.7	
BUCA	14	0829		0840	S11	E53	.793		18.3	11	SF		C	0831	54	.9	D
HTPR	14	0858	0858	0901	S12	E55	.813		18.5	3	SF		C	0858	10	.1	
TEHR	14	0917E	0919	0926D	S10	E49	.749		18.1	9D	SN	3	C		48		H
ATHN	14	0917E	0920	0926	S12	E52	.783		18.3	9D	SN	4	V		32		DE H
ATHN	14	0917E	0920	0926	S12	E52	.783		18.3	9D	SN	4	C		32		DE H
HTPR	14	0918	0919	0927	S12	E54	.803		18.4	9	SN		C	0919	30	.5	
MONT	14	0919	0920	0930	S11	E53	.793		18.4	11	SF		C	0920	20		D
HTPR	14	1040	1047	1054	S12	E53	.793		18.4	14	SN		C	1047	90	1.4	
ATHN	14	1044E	1047	1055	S12	E52	.783		18.3	11D	SN	4	C		32		H
ATHN	14	1044E	1047	1055	S12	E52	.783		18.3	11D	SN	4	V		32		H
MONT	14	1046	1047	1054	S11	E53	.793		18.4	8	SF		C	1047	40		DH
ATHN	14	1155	1158	1207	S12	E52	.783		18.4	12	SN	4	V		48		F H
ATHN	14	1155	1203	1207	S12	E52	.783		18.4	12	SB	4	C		16		DE H
HTPR	14	1156	1158	1210	S12	E52	.783		18.4	14	SN		C	1158	70	1.1	
MONT	14	1202E	1202	1211	S11	E52	.783		18.4	9D	SF		C	1202	20		DH
RAMY	14	1204E	1205U	1215	S10	E50	.761		18.3	11D	SN	3	V		50		F H
RAMY	14	1204E	1205U	1215	S10	E50	.761		18.3	11D	SN	3	C		60		F H
HTPR	14	1338	1342	1346	S12	E52	.783		18.5	8	SN		C	1342	50	.8	
ATHN	14	1339E	1341	1350	S11	E50	.761		18.3	11D	SB	4	C		48		DE
ATHN	14	1339	1341	1350	S11	E50	.761		18.3	11	SB	4	V		48		DE
HTPR	14	1408	1411	1416	S13	E50	.761		18.3	8	SN		C	1411	70	1.0	
HTPR	14	1436	1437	1444	S13	E51	.772		18.4	8	SF		C	1437	30	.5	
HTPR	14	1533	1537	1550	S13	E50	.761		18.4	17	SN		C	1537	100	1.6	
MCMA	14	1733E		1745D	S12	E47	.727	14029	18.3	12D	SF		C	1733	40	.6	E
RAMY	14	1832	1839	1932	S11	E49	.749		18.4	60	SB	4	C		72		DE H
PALE	14	1833	1835U	1852D	S11	E46	.714		18.2	19D	SB	3	C		54		DE
RAMY	14	1835E	1841	1847D	S11	E48	.738		18.4	12D	SB	4	V		80		DE H
MCMA	14	1859	1903	1919D	S13	E49	.750	14029	18.5	20D	SB		C	1903	40	.6	E
PALE	14	1906	1906	1910	S12	E43	.678		18.0	4	SN	3	C		31		DE
PALE	14	2152	2157D	2157D	S12	E42	.666		18.1	5D	SB	3	V		57		HDE
PALE	14	2152	2153	2214	S12	E42	.666		18.1	22	SB	3	C		63		HDE
PALE	15	0207	0224	0241	S12	E38	.613		17.9	34	SF	3	C		29		
ARCE	15	1050		1050D	S11	E36	.585		18.2		SF		C	1050	30	.4	C
HTPR	15	1321	1324	1324	S12	E38	.613		18.4	3	SF		C	1324	10	.1	
HTPR	15	1513	1517	1521	S11	E38	.612		18.5	8	SF		C	1517	10	.1	
UPIC	16	0955	1000U	1005	S12	E25	.425		18.3	10	SF		P	1000	82		

Hα SOLAR FLARES

JANUARY 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE JAN	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COORD.	TYPE	TIME UT	MEAS. AREA (Mill. of Disk)	CORR. AREA Sq. Deg.	
RAMY	16	1938	1940	1941D	S10	E18	.310		18.2	3D	SF	3	C		20		DE
RAMY	16	1938	1940	1942D	S11	E18	.313		18.2	4D	SF	3	V		20		DE
HTPR	17	1041	1043	1049	S09	E12	.209		18.3	8	SF		C	1043	30	.3	
RAMY	18	1131	1133	1141	S13	W 8	.173		17.9	1D	SF	3	C		108		F
HTPR	18	1347	1349	1403	S13	W08	.173		18.0	16	SN		C	1349	30	.3	
HTPR	18	1412	1418	1436	S10	W03	.074		18.4	24	SF		C	1418	20	.2	E
MITK	19	0208	0213	0240	S13	W11	.215		18.3	32	SN		C	0213	80	.8	E
MANI	19	0216E	0216U	0219D	S12	W11	.207		18.3	3D	SF	2	P	0216	80	.8	F
ARCE	19	0820E		0912D	S11	W16	.281		18.1	52D	SN		C	0835	124	1.3	TF
BUCA	19	0826		0900	S13	W14	.259		18.3	34	SF		P	0835	215	2.1	E
MONT	19	1145	1148	1152	S11	W21	.360		17.9	7	SF		C	1148	20		D
PALE	20	0143	0144	0202	S12	W25	.425		18.2	19	SF	3	C		23		H U
MONT	20	1251	1253	1300	S12	W28	.470		18.4	9	SF		C	1253	40		E
HTPR	20	1251	1253	1258	S11	W29	.483		18.4	7	SF		C	1253	20	.3	
HTPR	20	1411	1413	1427	S13	W35	.573		18.0	16	SF		C	1413	10	.2	E
HTPR	20	1527	1527	1535	S13	W36	.587		17.9	8	SF		C	1527	10	.2	
HTPR	21	0933	0933	0943	S12	W46	.714		17.9	10	SF		C	0933	10	.2	E
HTPR	28	0956	1001	1018	S04	W06	.118		28.0	22	SF		C	1001	20	.2	
MONT	28	0956	1004	1018	S06	W08	.140		27.8	22	SF		C	1004	20		G
HTPR	28	1222	1228	1231	N07	E58	.862		3.9	9	SF		C	1228	10	.2	
HTPR	28	1515	1517	1600	N07	E56	.845		3.8	45	SF		C	1517	10	.2	
MONT	29	1228	1235	1244	N07	E45	.732		3.9	16	SF		C	1235	20		

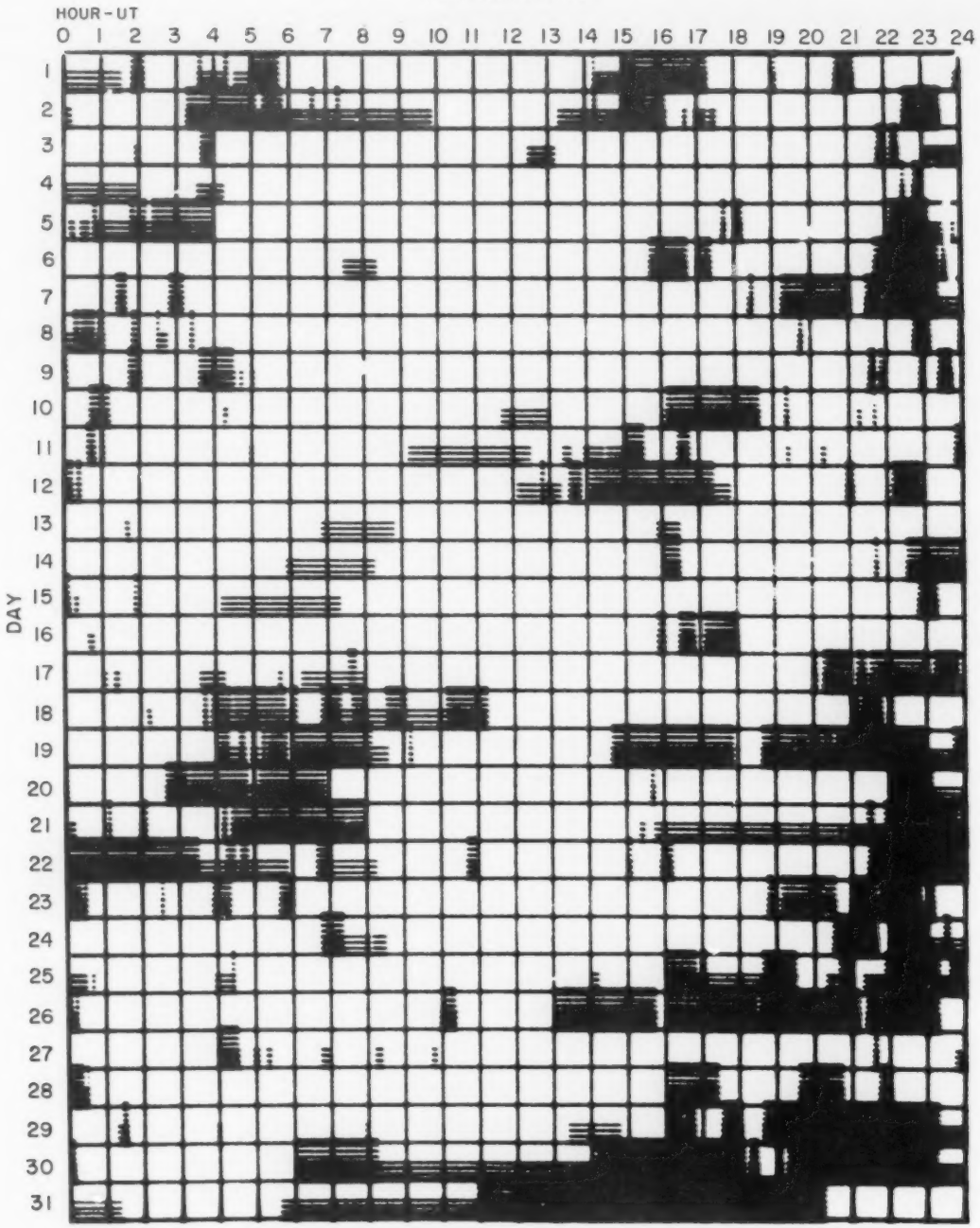
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JANUARY 1976



Observatories included in total patrol:

Arcetri	Bucharest	Manila	Monte Mario	Tehran
Athenes	Haute Provence	McMath-Hulbert	Palehua	Upice
Boulder	Herstmonceux	Mitaka	Ramey	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JANUARY 1976

Nançay 169 MHz

JANUARY 1976 : noise storm centers observed at 169 MHz (Nançay FRANCE).

JANUARY:

day	location (solar radius)	flux (10^{-22} W/m^2/Hz)	diameter (solar radius)
13	0.96 E	29	0.18
13	0.78 E	54	0.26
14	0.65 E	26	0.39
19	0.44 W	40	0.31

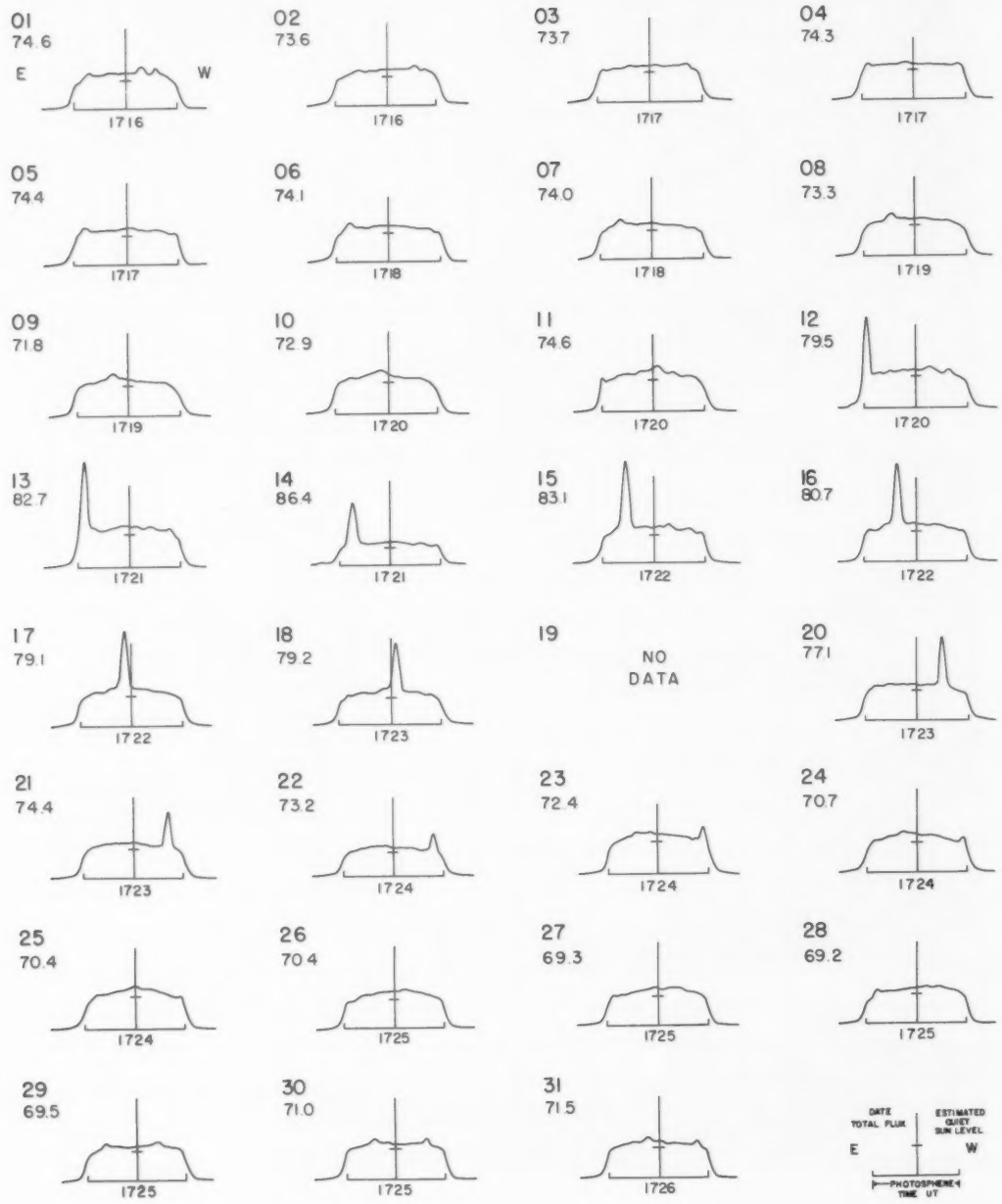
E C W

EAST-WEST SOLAR SCANS

JANUARY, 1976

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan Beam with 1.5 minutes of arc
E-W Resolution

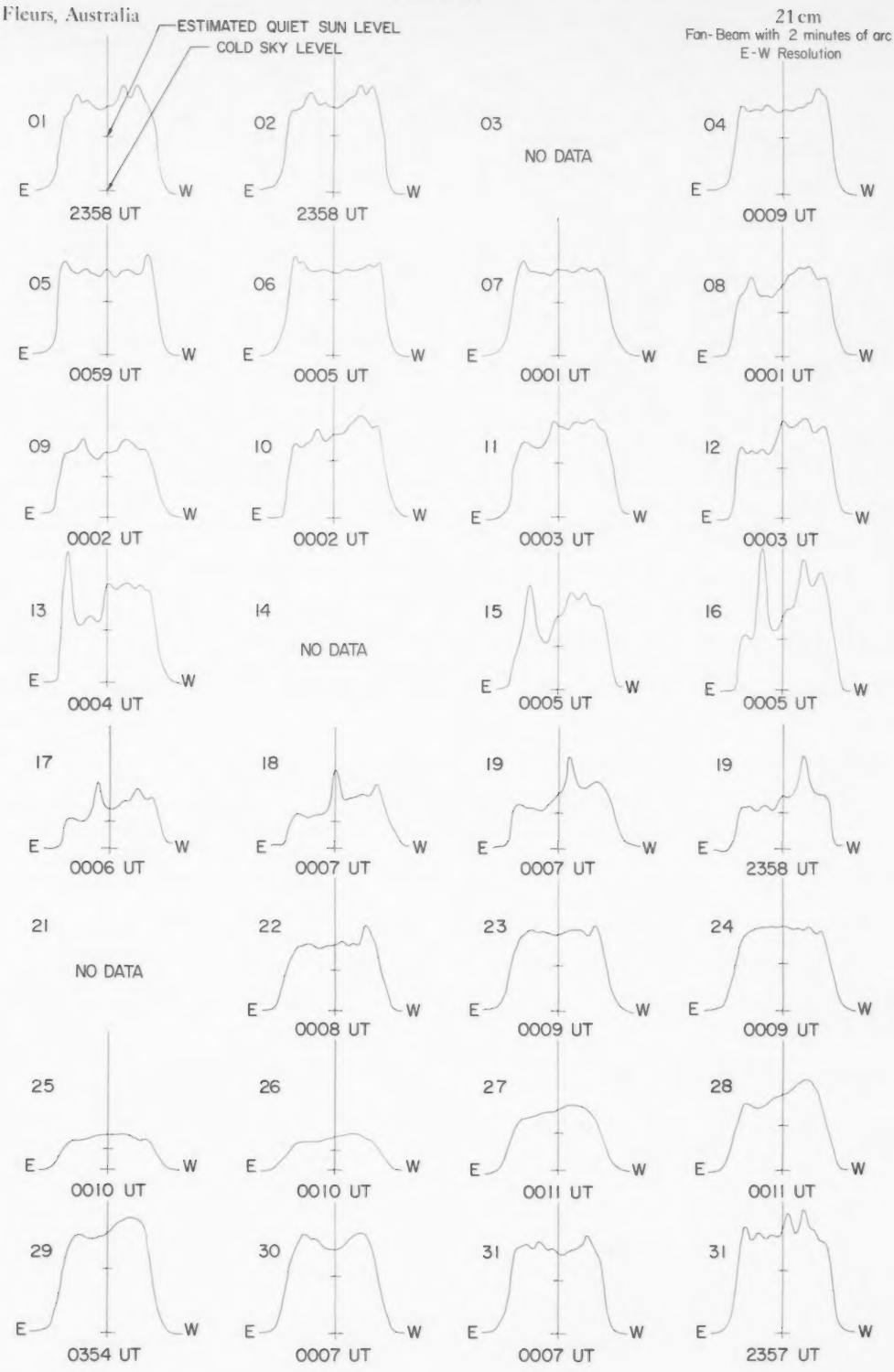


EAST-WEST SOLAR SCANS

JANUARY 1976

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

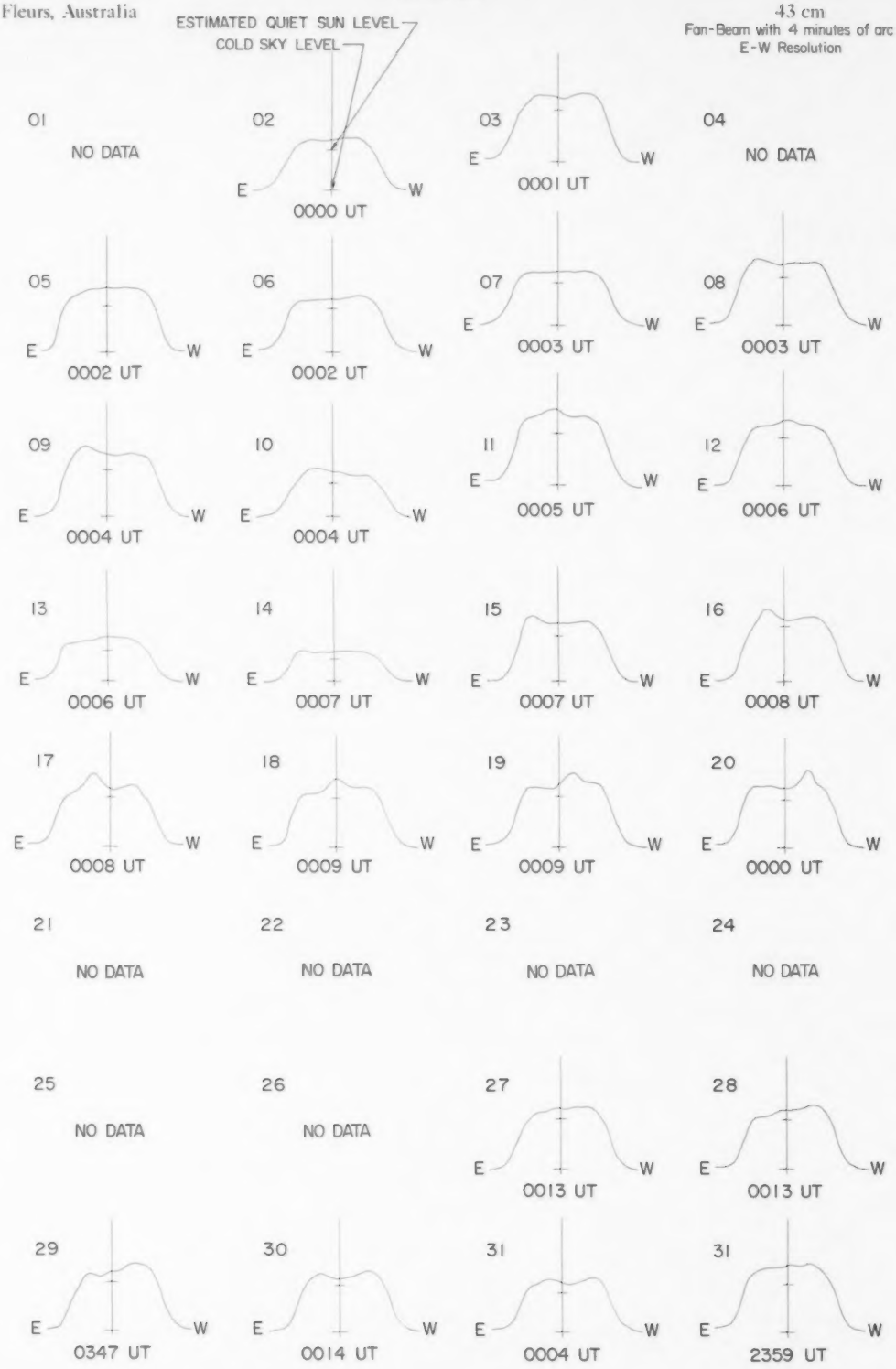


EAST-WEST SOLAR SCANS

JANUARY 1976

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JANUARY 1976

	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
9	2695	BOUL	1 S	2247.5	2248	3	2	1		
11	2800	OTTA	24O R	1940	2000	20	3	1.5		
	2695	PENT	24P R	2000		160 D	3			
12	2800	OTTA	8 S	1454.9	1455	0.3	1	0.5		
	2800	OTTA	27F RF	1700		310	2.4	1.2		
	2800	OTTA	24 R	1700	1735	35	2.4	1.2		
	2800	OTTA	24P R	1735		235	2.4			
	2695	BOUL	8 S	1930.5	1931	1	11	4		
	2695	PENT	26 FAL	2130	2210	40	-2.4	-1.2		
14	2800	OTTA	23 GRF	1400		210	2.2	1.6		
	2800	OTTA	1 S	1534	1535	6	1	0.6		
	2800	OTTA	40 F	1628.8	1632.3	6	7.8			
	2800	OTTA	21 GRF	1831	1845	30	1.4	0.8		
	2800	OTTA	1 S	1833	1834	2	4.4	1.4		
	2695	PENT	20 GRF	1955	2050	100	1.6	1		
	2695	PENT	26F FAL	2140	2210	30	-1.8	-1.2		
15	2695	PENT	20 GRF	1920	1923	92	2.2	1.1		
	2800	OTTA	20 GRF	1920	1923	11	1.4	0.7		
16	2800	OTTA	1 S	1714.9	1715.5	3	1.8	0.6		
	2695	BOUL	22 GRF	1715	1716	7.5	3	1		
17	2695	PENT	8 S	2142.3	2142.3	0.1E	12.5			
18	2695	PENT	1 S	1348	1348.7	1.5	1.4	0.7		
23	2695	BOUL	45 C	1957.5	2000	3.5	3	1		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SOLAR WIND

Interplanetary Scintillations

JANUARY 1976

UCSD 74 MHZ SCINTILLATIONS

DAY	3C48 VEL	3C48 ERR	3C144 VEL	3C144 ERR	3C147 VEL	3C147 ERR	3C161 VEL	3C161 ERR	3C237 VEL	3C237 ERR	3C273 VEL	3C273 ERR	3C298 VEL	3C298 ERR	3C459 VEL	3C459 ERR
3	402	72									470	149			344	*
4	326	50													198	20
5	304	78													241	37
6													411	122		
7											633	150				
8	184	30														
9	242	37											366	41		
10													507	166		
11	350	12	543	144			478	57	702	*					339	112
11															349	10
12	261	31	420	13			324	33	639	*			824	70		
13	286	8	346	29												
14	439	54	319	*											499	71
16															267	66
17													474	78	289	36
18															411	*
20	290	*													705	*
21	404	*					704	*								
22											687	203	486	160	661	228
23	523	50					313	*					567	73	322	53
24															273	8
25	323	57											412	69	359	*
26	292	37					264	105								
27	300	92														
28													370	59		
29	435	*					220	11							205	19
30											474	*				
31	214	21					365	*	344	*						

JANUARY	5 UT	LAT	DIST	DLON	15 UT	LAT	DIST	DLON	25 UT	LAT	DIST	DLON
3C48	3.	3.	1.13	-13.	2.	2.	1.09	-14.	1.	1.	1.04	-15.
3C144	7.	-3.	1.28	-5.	6.	-4.	1.27	-7.	5.	-5.	1.24	-9.
3C147	6.	2.	1.26	-3.	5.	2.	1.25	-5.	4.	1.	1.23	-7.
3C161	8.	-9.	1.27	-2.	7.	-10.	1.26	-4.	7.	-11.	1.25	-6.
3C237	12.	-5.	1.23	10.	11.	-6.	1.26	8.	10.	-6.	1.28	6.
3C273	14.	-3.	1.09	16.	13.	-4.	1.14	14.	12.	-5.	1.18	13.
3C298	15.	0.	0.97	17.	15.	0.	1.02	17.	14.	-1.	1.07	16.
3C459	0.	2.	0.92	-23.	23.	4.	0.83	-32.	23.	6.	0.73	-42.

* indicates data for which no error estimate is available, because only two antennas were operating.

3C459 observed at 0 hr.UT before January 11, at 23 hr.UT after January 11.

PIONEER VII

JANUARY 1976

Date Jan. 1976	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND				COSMIC RAY PROTONS[2] (particles/sec)		
				AMES[1]		MIT				
				U_{H^+} (km/sec)	TAU (days)	U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	6-13 (Mev*)	13-175 (Mev**)	>175 (Mev)
25	1254-1843	1400	-033.5	739.†	-2.8					
		1500		739.						
		1600		739.						
		1700		739.						
		1800		739.						
		1900		739.						

[1] Wolfe - NASA/ARC
[2] Simpson - University of Chicago

* Includes He 0.6-13 Mev/nucleons and electrons ∿0.5 Mev - see J. Retzler and J. A. Simpson, J. Geophys. Res., 74, 9, 2149-2160, 1969 for discussion of the electron response of Pioneer VII.

** Includes He >13 Mev/nucleons.
Q Used to indicate that a rate is at its quiescent level.

ESP = Earth-Sun Probe Angle.

† Peak velocity.

Note: Data sampled hourly unless otherwise noted.

SOLAR X-RAYS BY SATELLITE
SMS GOES

JANUARY 1976

20 Jan 76

.5 - 4Å Hourly Averages (10^{-6} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
1/ 1	B	B	B	B	B	B	0.10	B	B	B	B	B	B	B	B	B	B	B	B	0.17	B	B	B	B	0.01
1/ 2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/ 3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B
1/ 4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.03	B	B	B	B	0.02	B	B	B	B	B
1/ 5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B
1/ 6	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
1/ 7	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/ 8	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/ 9	B	B	B	M	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B
1/10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.01	B	B	M	B
1/11	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/12	B	B	B	B	B	B	0.08	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/13	B	B	B	B	M	M	B	B	B	0.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/14	B	B	B	B	B	B	0.11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/15	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B
1/16	B	B	B	B	B	B	0.08	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/17	B	B	B	0.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/20	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	0.05	B
1/21	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	B	B	B	B	B	B	M	B	B	B
1/22	B	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B	B	M	M	M	M	M	M	B	B
1/23	M	M	M	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/24	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B
1/25	B	B	B	B	B	B	B	B	0.02	M	M	M	M	M	M	M	M	M	M	M	B	M	B	B	B
1/26	B	B	B	B	B	B	B	B	B	B	0.07	B	M	M	M	M	M	M	M	M	M	M	M	M	B
1/27	M	M	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B
1/28	M	M	M	M	M	B	B	B	B	B	0.08	B	B	B	B	M	M	M	M	M	M	M	M	B	B
1/29	B	B	B	B	B	B	B	B	B	B	0.07	B	B	B	B	M	M	M	M	M	M	M	M	M	B
1/30	B	B	0.02	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/31	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE
SMS GOES

JANUARY 1976

1 - 8Å Hourly Averages (10^{-5} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
1/ 1	B	B	B	B	B	B	0.11	B	B	B	B	B	B	B	B	B	B	B	B	0.17	B	B	B	B	0.01
1/ 2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/ 3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.05	B	B	B	B	B
1/ 4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.02	B	B	B	B	B
1/ 5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B
1/ 6	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
1/ 7	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/ 8	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/ 9	B	B	B	M	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B
1/10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.02	B	B	M	B
1/11	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/12	B	B	0.01	B	B	B	0.09	0.02	B	0.01	0.01	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B
1/13	B	B	B	B	M	M	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/14	B	B	B	B	B	B	0.13	B	B	B	B	B	0.01	B	B	B	0.01	B	B	B	B	B	B	B	B
1/15	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B
1/16	B	B	B	B	B	B	0.08	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/17	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
1/20	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	0.01	B
1/21	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	B	B	B	B	B	B	M	B	B	B
1/22	B	B	B	B	B	B	B	B	B	B	0.04	B	B	B	B	B	B	M	M	M	M	M	M	B	B
1/23	M	M	M	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/24	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B	B
1/25	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B	M	B	B	B	B
1/26	B	B	B	B	B	B	B	B	B	B	0.08	B	M	M	M	M	M	M	M	M	M	M	M	M	B
1/27	M	M	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B
1/28	M	M	M	M	M	B	B	B	B	B	0.08	B	B	B	B	M	M	M	M	M	M	M	M	B	B
1/29	B	B	B	B	B	B	B	B	B	B	0.08	B	B	B	B	M	M	M	M	M	M	M	M	M	B
1/30	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B
1/31	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE

SMS GOES

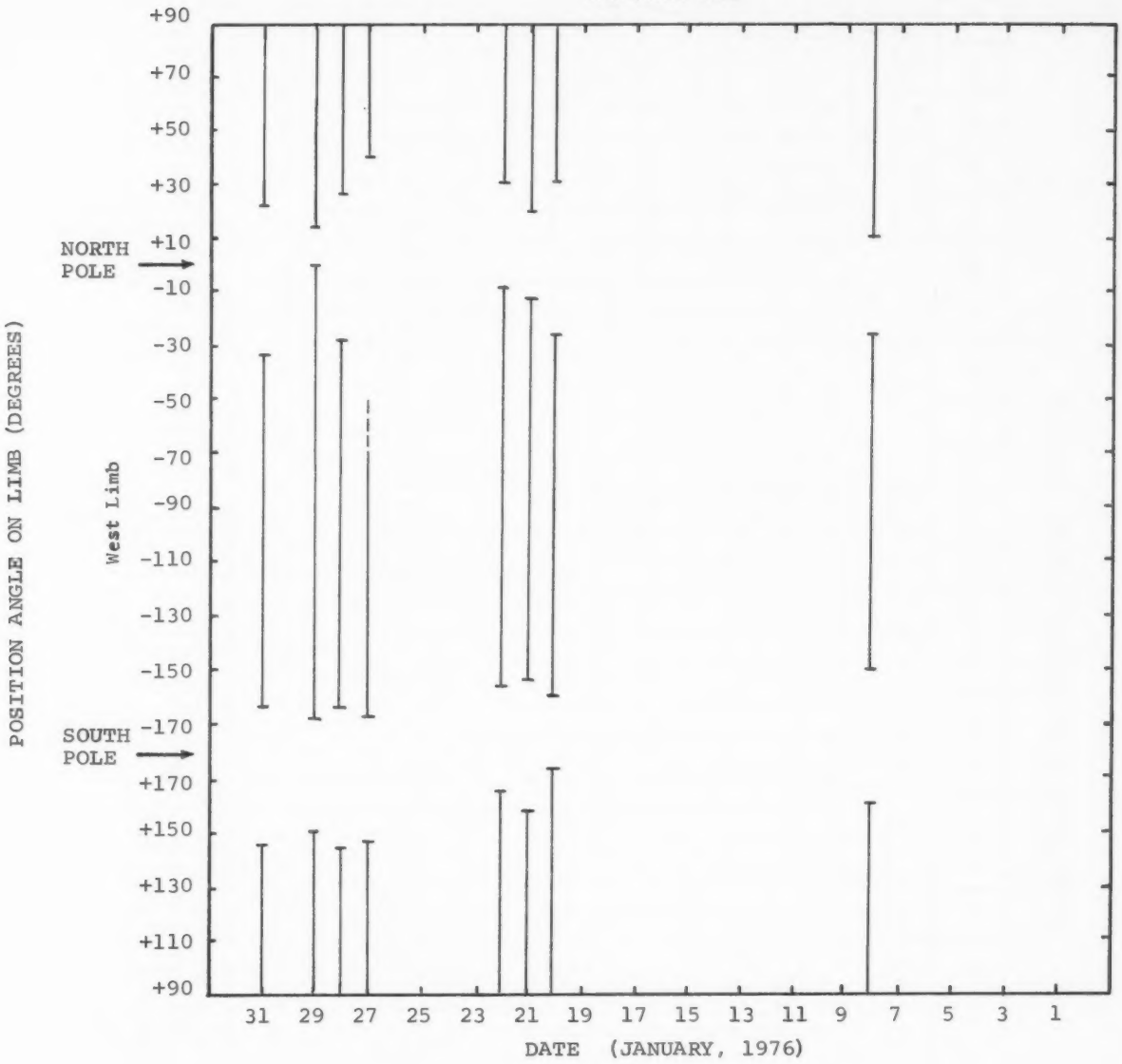
JANUARY 1976

DAY	BEGIN TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	MAX TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	1/2P TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}
12	0216	0.0E+00	1.9E-07	0229	2.0E-07	3.2E-06	0250	4.2E-08	1.7E-06
12	0613	0.0E+00	3.6E-07	0624	9.5E-07	1.0E-05	0631	1.6E-07	5.4E-06
12	1451	0.0E+00	2.4E-07	1456	4.7E-07	4.9E-06	1453	1.2E-07	2.6E-06
13	0356	3.2E-10	2.6E-07	0905	6.1E-07	5.7E-06	0920	1.0E-07	3.0E-06
14	0914	2.9E-10	3.7E-07	0925	3.5E-07	3.1E-06	0929	7.6E-08	1.8E-06
14	1043	3.3E-09	6.3E-07	1048	3.2E-07	3.6E-06	1051	8.5E-08	2.1E-06
14	1155	1.5E-09	5.6E-07	1201	3.6E-07	4.2E-06	1206	1.3E-07	2.4E-06
14	1336	1.5E-10	5.1E-07	1341	2.9E-07	3.5E-06	1344	7.7E-08	2.0E-06
14	2149	1.6E-10	3.4E-07	2157	2.5E-07	3.9E-06	2200	6.1E-08	2.1E-06

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

JANUARY 1976



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1934	DEC 31	T A	T T	T T	A TA	A T	A T	A -	A -	TA T	A A	AT -	A A*	A *	T T	T T	T T	T T	T*	T T*	T T	T T	T T	*	A A	A A	AT	A* A A
1935	1975 JAN 27	T T	T T	A T	AT T	A A*	A T-	TA A	A T	A T	A T	A T	A T	- T	T T	T T	AT T	T T	T T	T* T	- TA	A T	A* AT	T A	TA TA	T A	A A	A A
1936	FEB 23	TA A	A A	A A*	TA A	A AT	A A	A A	A A	A A	AT T	A A	A A	A T	T T	T T	T A	T A*	T T	T T	TA T	A* T	T T	A T	* T	T T	T A	A A
1937	MAR 22	A A	A A	TA A	T T	A A*	A A	A A	A A	AT A*	T A	A A	T *	TA T	T T	T T	T *	T A*	T T	A AT	A T	T T	A T	A A	T T	T T	A A	A A
1938	APR 18	A A	A A	A A	A A	* A	A* A	A -	A A	A A	A A	A A	T T	A A	A A	T T	- T	T T	- T	T T	T T	A A*	T T	T T	- A	T AT	T T	TA T
1939	MAY 15	T T	A A	TA TA	A A	A A	T T	TA TA	- *	A A	A A	A A	- -	- -	- -	- -	- -	- -	- -	- -	- -	T -	* -	* -	* *	T T	T T	A A
1940	JUN 11	A A	A A	A A	A A	A A	* -	- -	- -	- -	A A	A A	TA A	A AT	A A	A A	A A	T T	T T	T A	A TA	* A	A T	T T	T T*	T T*	T T	
1941	JUL 8	A A	A A	A A	A A	TA A	A A	TA* A	A TA	TA A	A T	T A	A A	A A*	- *	A A*	A T	A A	T T	T TA	A AT	T T	T T	T T	T T	AT AT	A A	A A
1942	AUG 4	A A	A A	A T	A A	T T	AT T	A A	A A	A A	A A	A A	A A	A A	T T	T -	A T	T *	T T	TA T	T T	T T	T T	- AT	AT T	T T	T A	A A
1943	AUG 31	A A	A TA	A* T	T A	A A	A TA	A T	T* A	A A	A A	A A	A A	A *	A A	A A*	A A*	A T	T T	T T	T -	T TA	T T	T T	T T	T T	A T	A A	
1944	SEP 27	A A	T A	A A	A A	T T	T A	T -	A -	A -	A A*	A A	A A	A *	AT A	T T	A A	A A	AT *	T A	T T	T A	T T	T T	T T	T T	TA A	A -
1945	OCT 24	T T	T T	T T	T T	T TA	A A	A *	A A	A A	A A	A* A	* A	A A	* AT	- AT	- AT	T AT	T T	T T	T T	T T	T T	T T	A T	* T	T T	T T	T
1946	NOV 20	A T	A *	T T	TA T	T A	A T*	A T*	A A	A -	A -	A -	A A	A *	* A	A A	A A	A A	AT A	AT T	T T	T T	T T	T T	T *	T T	T T	T T
1947	DEC 17	T -	T T	T T	T T	T T	T T	T TA*	A T	A T	A *	AT *	TA A	A A	A *	A A	A A	A A	T T*	T A	T *	T T	T T	T T	T T	A* TA	* T	* T T
1948	1976 JAN 13	TA T	T T*	T TA	T T	TA A	TA T	AT T	A A	A T	A -	A -	A *	A A	A -	A -	A A	A -	A -	T T								

T = towards the sun A = away from the sun * = effect doubtful or not discernable - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Geophysics Laboratories at the Thule Geopole Station is used for the second half of the day.

DECEMBER 1975 DATA

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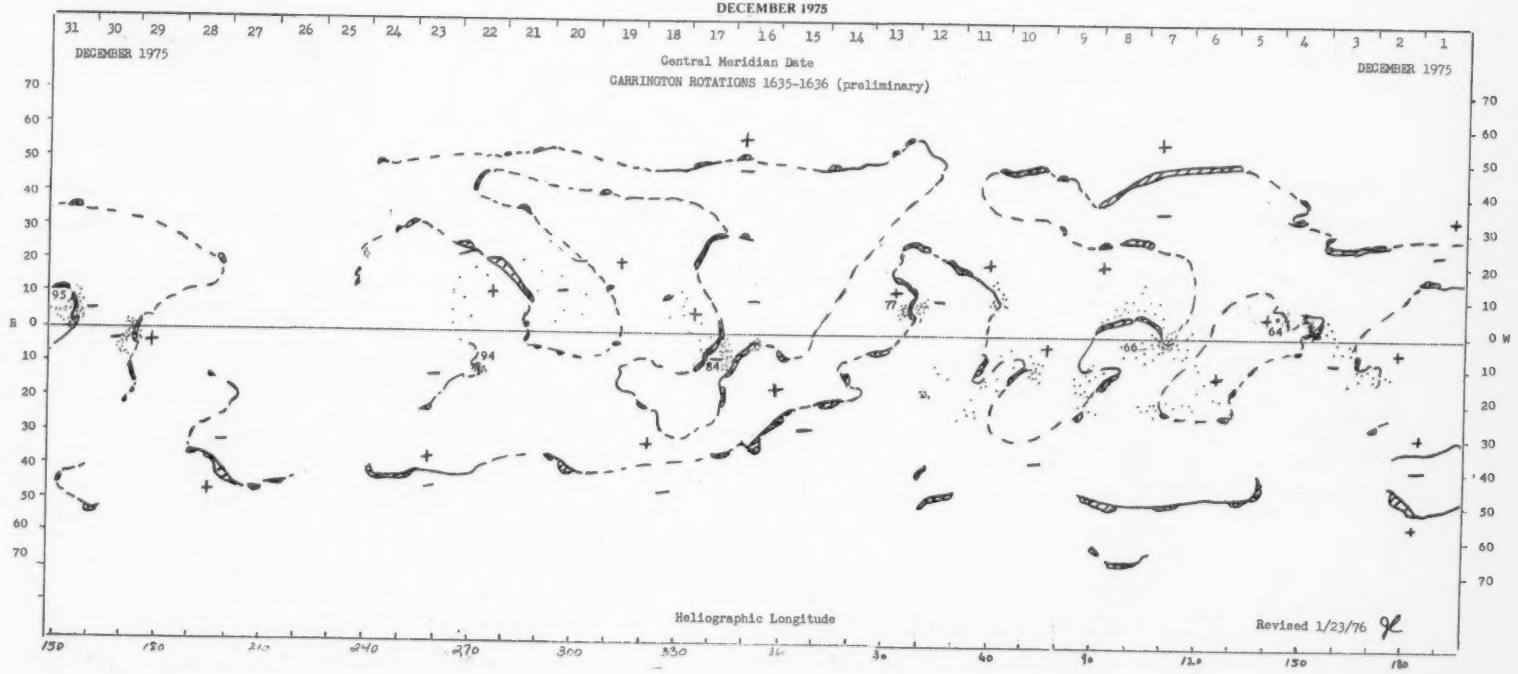
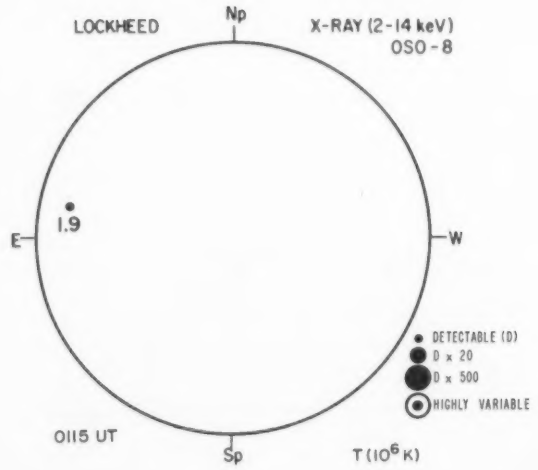
Hα SYNOPTIC CHART

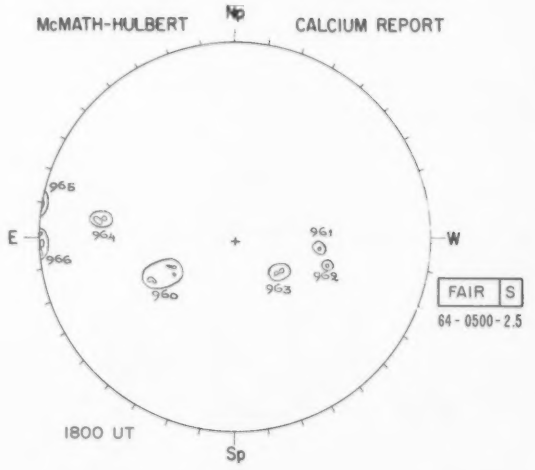
DECEMBER 1975

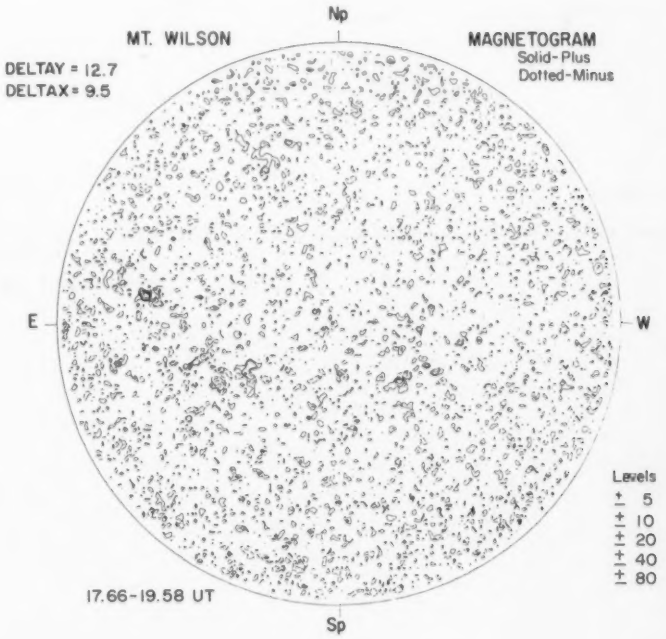


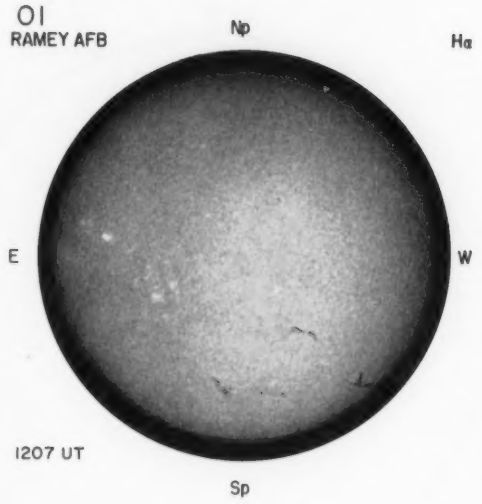
27
Dec 75

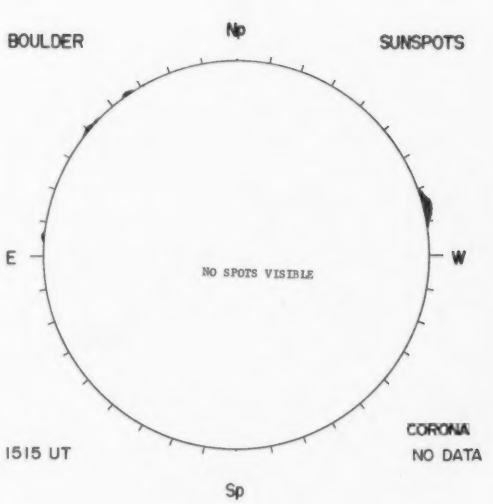
DECEMBER 1, 1975 (P = 16.36, B_o = 0.91, L_o = 197.04)

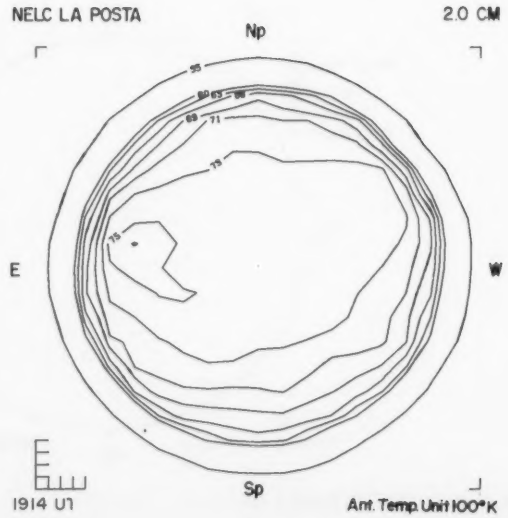


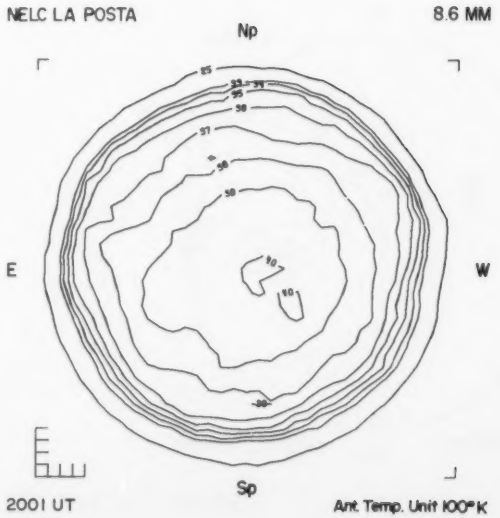





01
RAMEY AFB
Np
Hα
E
W
1207 UT
Sp


BOULDER
Np
SUNSPOTS
E
NO SPOTS VISIBLE
W
1515 UT
CORONA
NO DATA
Sp


NELC LA POSTA
2.0 CM
Np
E
W
Sp
1914 UT
Ant. Temp. Unit 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
2001 UT
Ant. Temp. Unit 100°K

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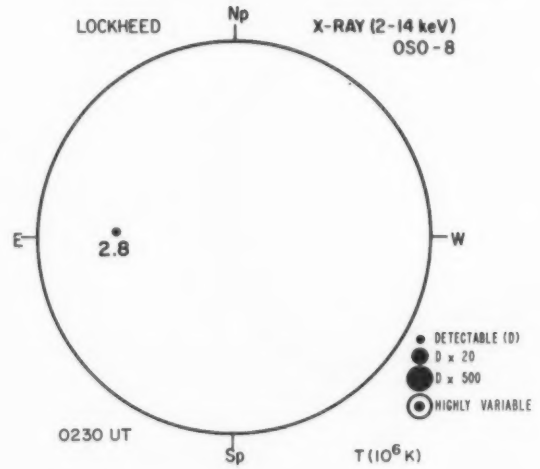

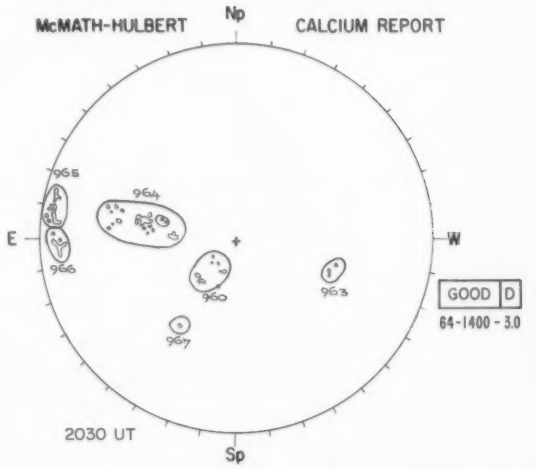

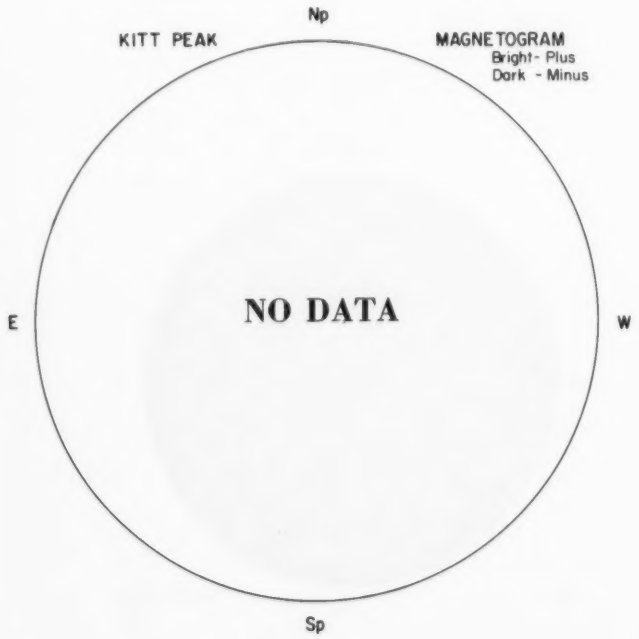

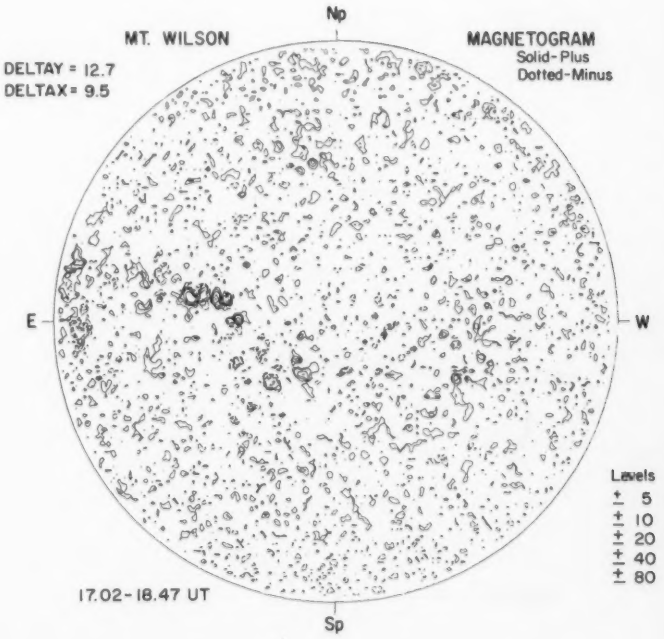

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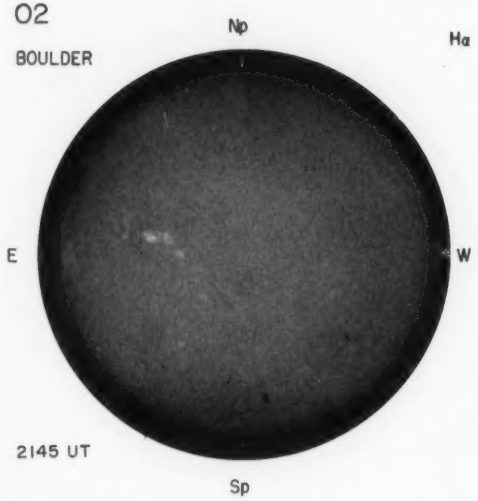
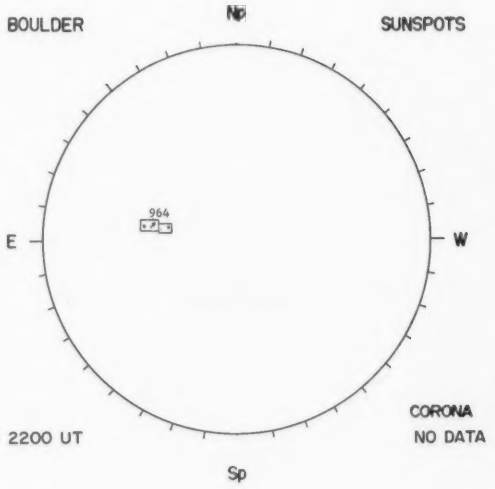
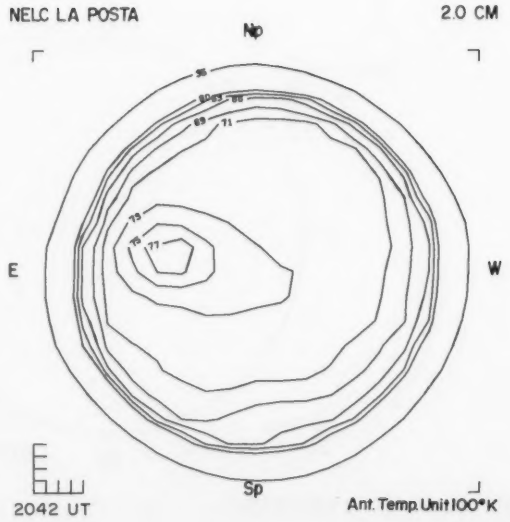
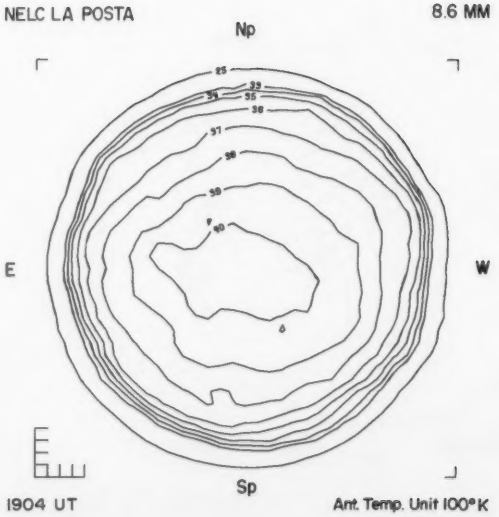
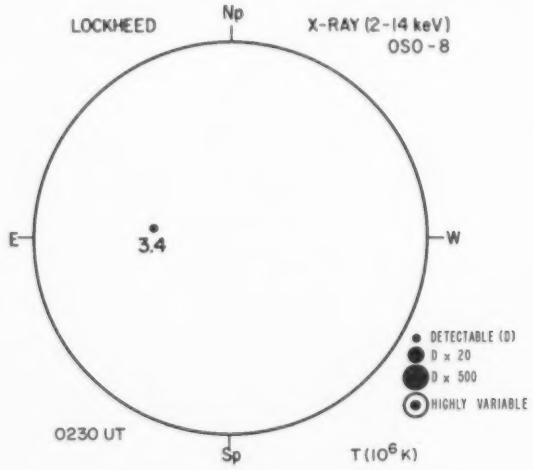

BOULDER
Np
Hα
E
W
2145 UT
Sp

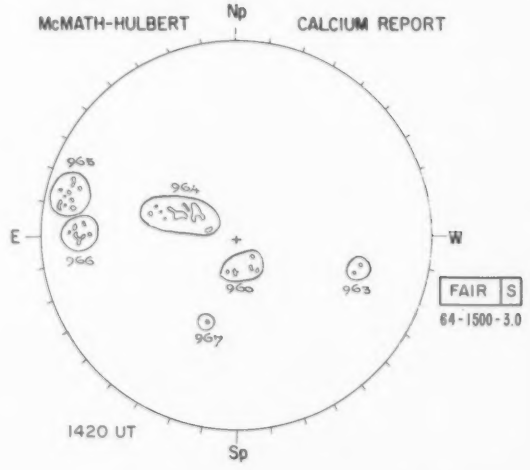

BOULDER
Np
SUNSPOTS
964
E
W
CORONA
NO DATA
2200 UT
Sp

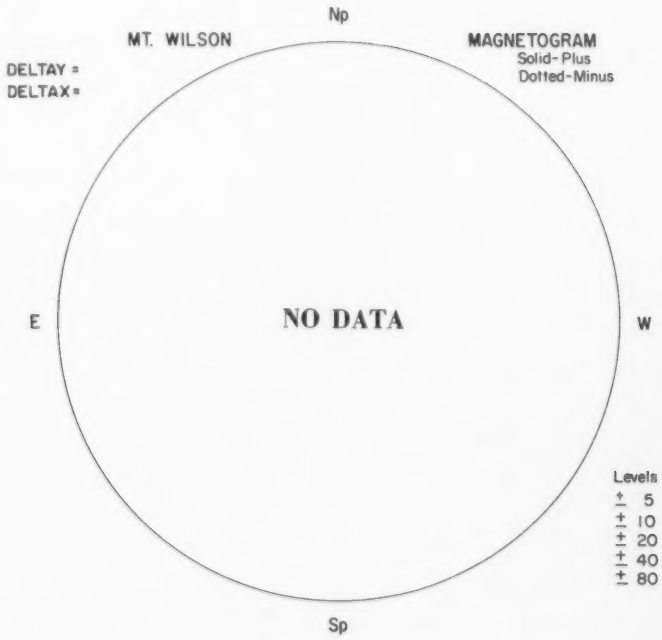

NELC LA POSTA
2.0 CM
Np
E
W
Sp
2042 UT
Ant. Temp. Unit 100°K

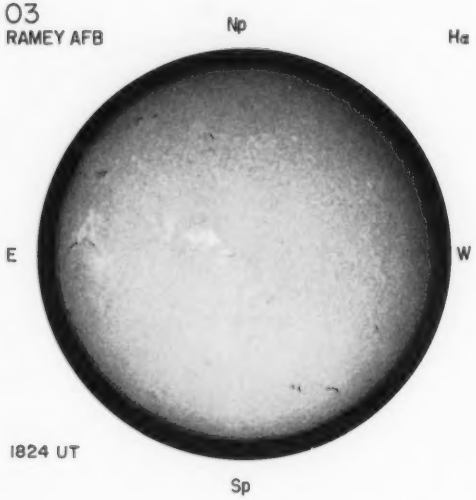

NELC LA POSTA
8.6 MM
Np
E
W
Sp
1904 UT
Ant. Temp. Unit 100°K

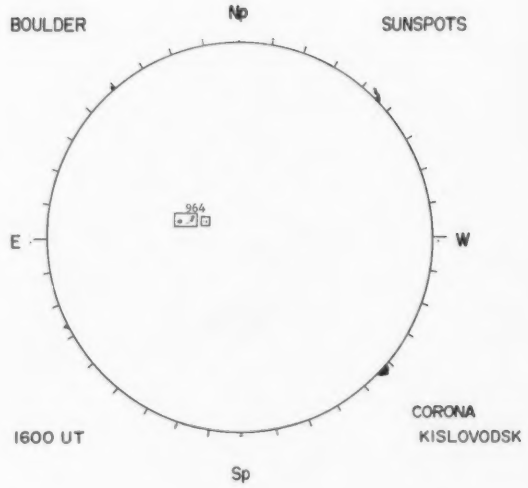
DECEMBER 3, 1975 (P = 15.58, B_o = 0.66, L_o = 170.68)

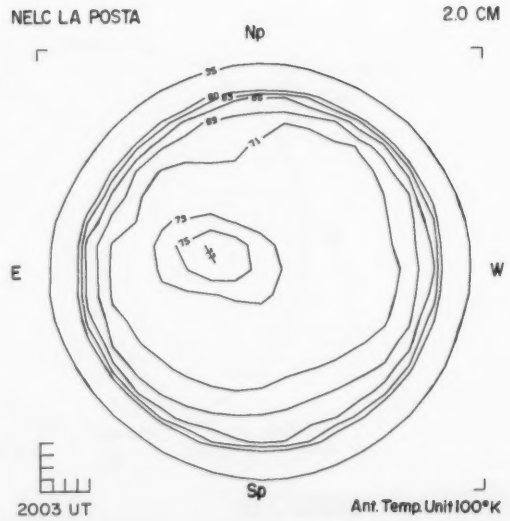


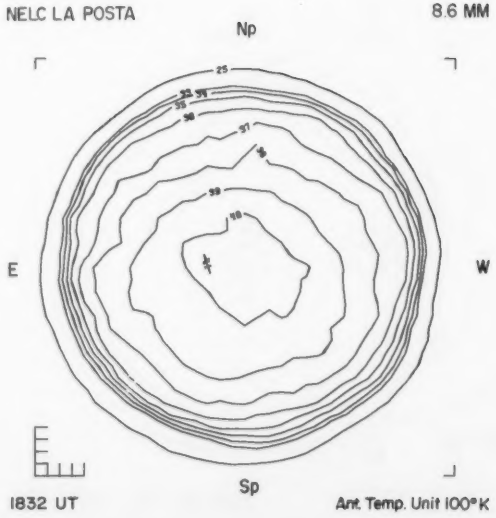




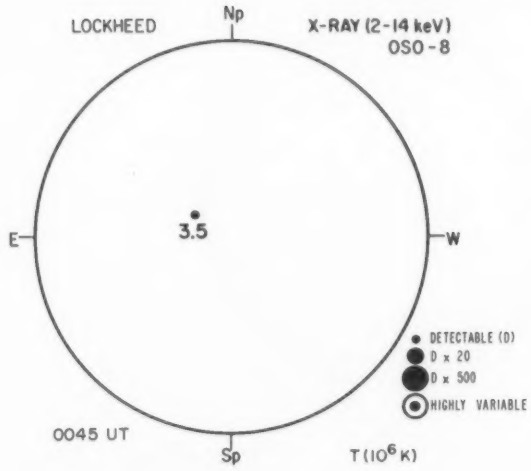

03
RAMEY AFB
Np
Hα
E
W
1824 UT
Sp

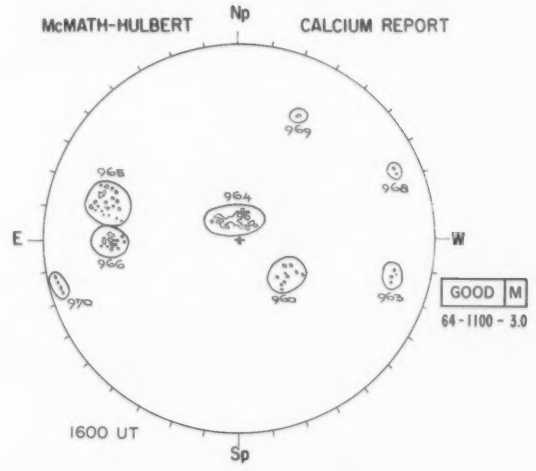

BOULDER
Np
SUNSPOTS
964
E
W
CORONA
KISLOVODSK
1600 UT
Sp

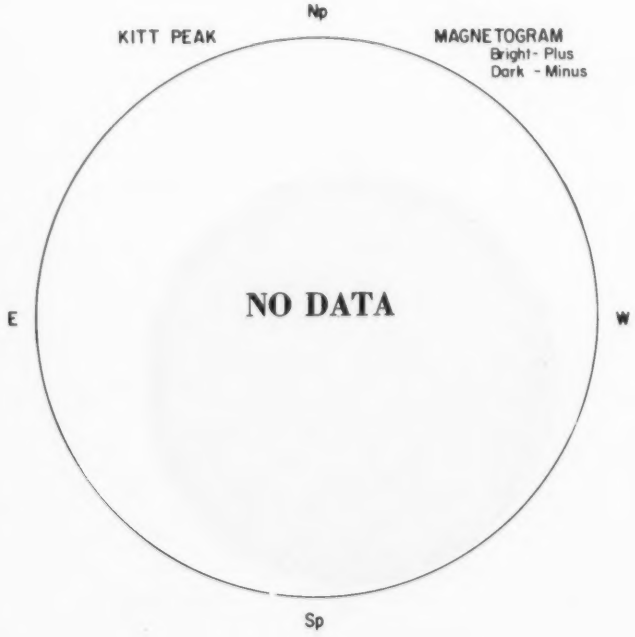

NELC LA POSTA
2.0 CM
Np
E
W
Sp
2003 UT
Ant. Temp. Unit 100°K

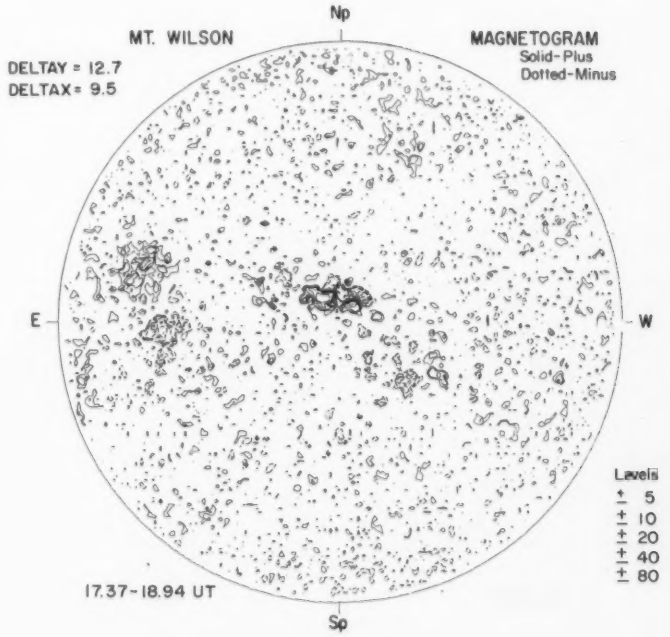

NELC LA POSTA
8.6 MM
Np
E
W
Sp
1832 UT
Ant. Temp. Unit 100°K

DECEMBER 4, 1975 (P = 15.18, B_o = 0.53, L_o = 157.50)

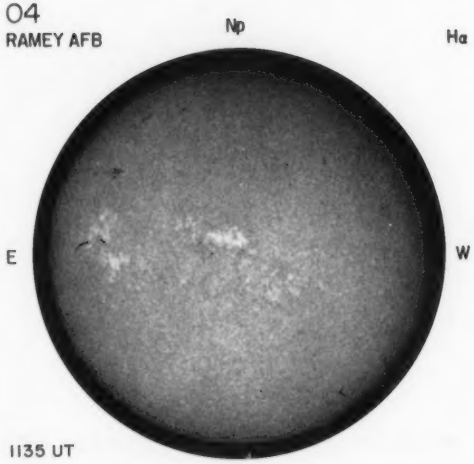






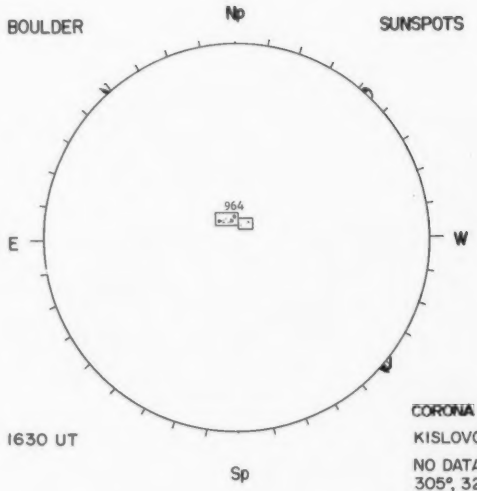


04
RAMEY AFB



1135 UT

BOULDER



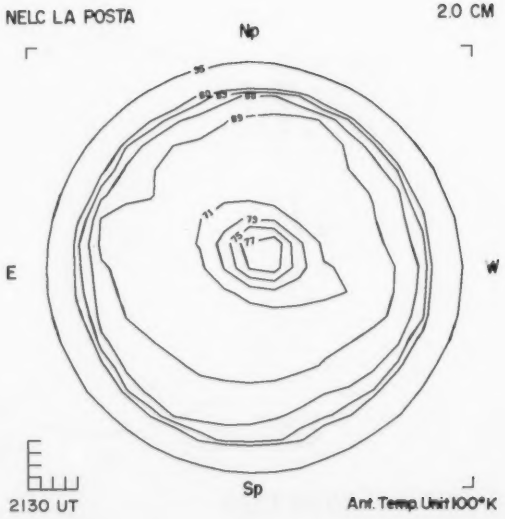
1630 UT

CORONA

KISLOVODSK

NO DATA - 10°, 90°, 95°
305°, 320°, 325°, 335°
355°

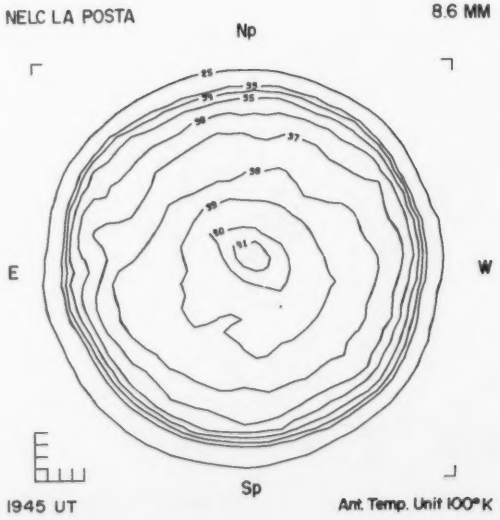
NELC LA POSTA



2130 UT

Ant. Temp. Unit 100°K

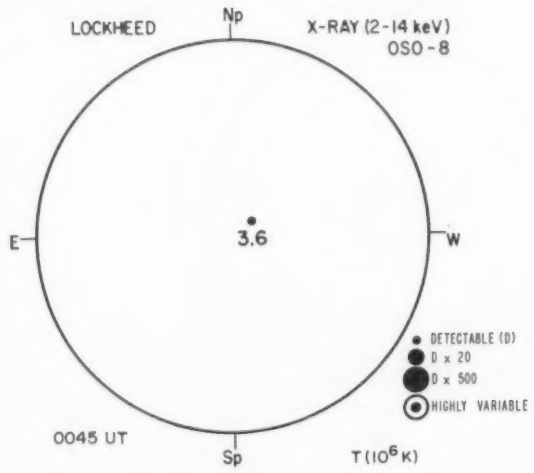
NELC LA POSTA

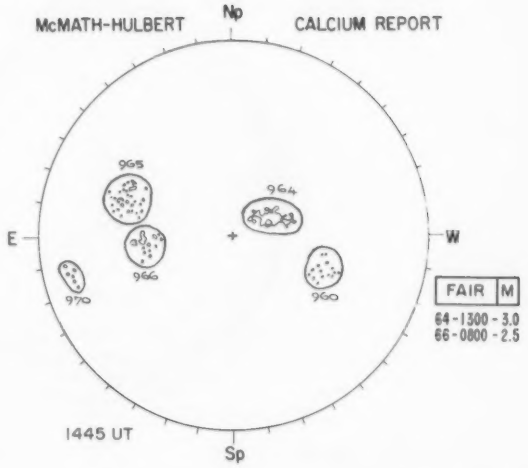


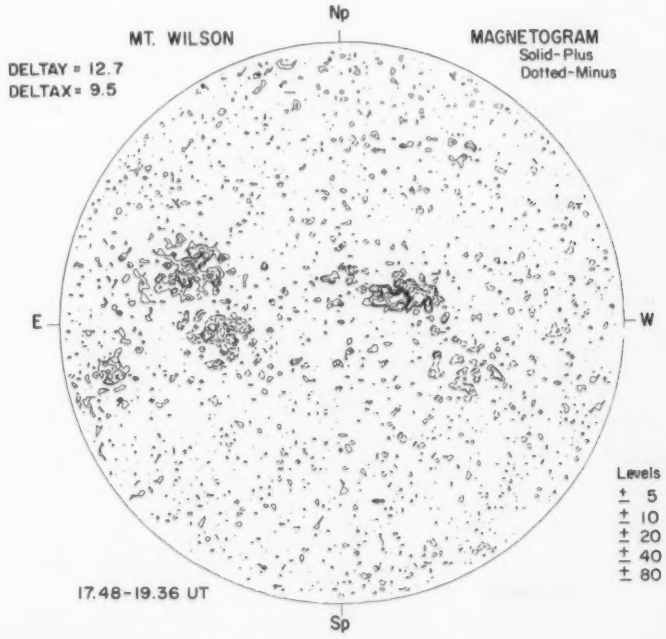
1945 UT

Ant. Temp. Unit 100°K

DECEMBER 5, 1975 (P = 14.78, B_0 = 0.40, L_0 = 144.33)







05
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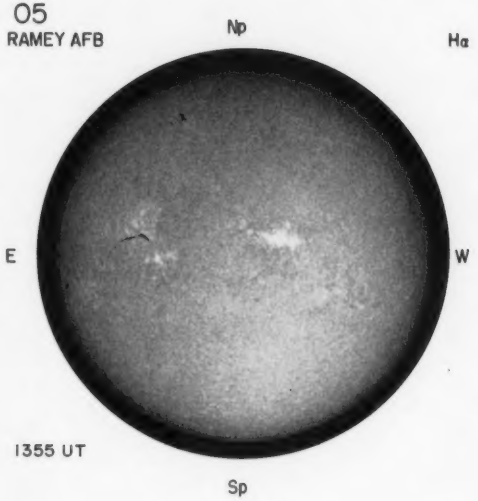
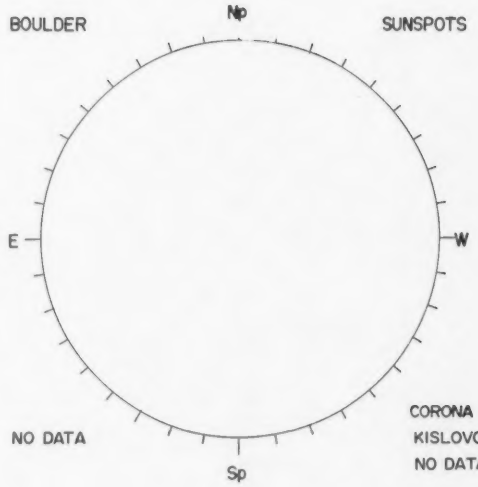


1355 UT

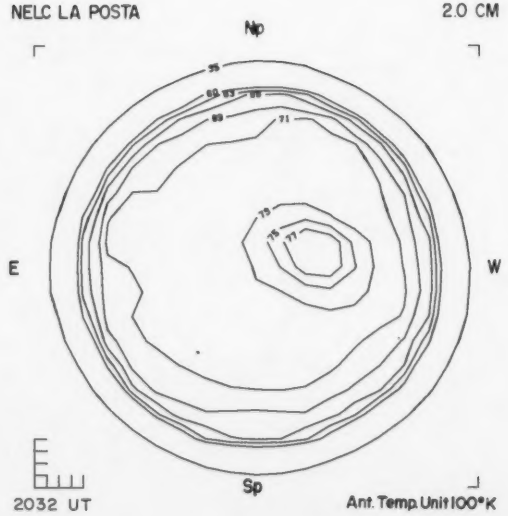
BOULDER



NO DATA

CORONA
KISLOVODSK
NO DATA 35°

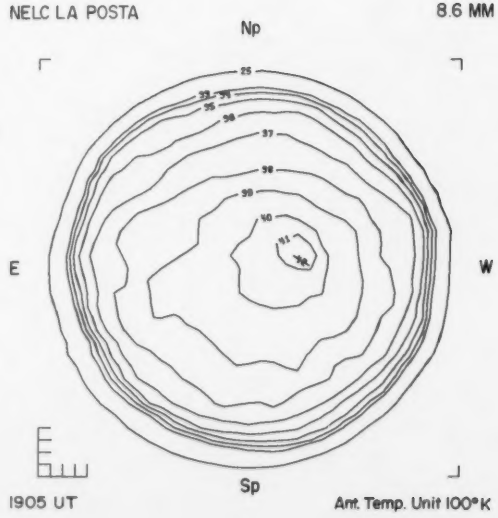
NELC LA POSTA



2032 UT

Ant. Temp. Unit 100°K

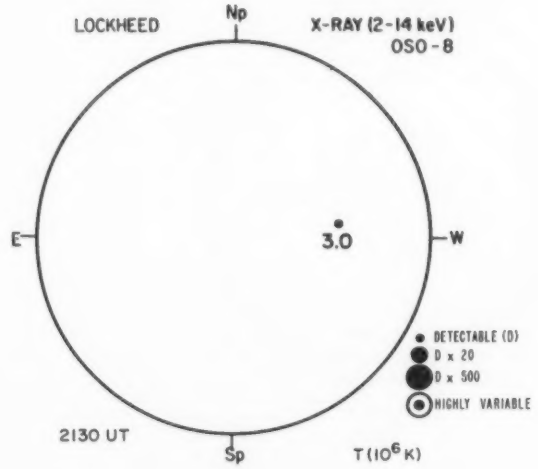
NELC LA POSTA

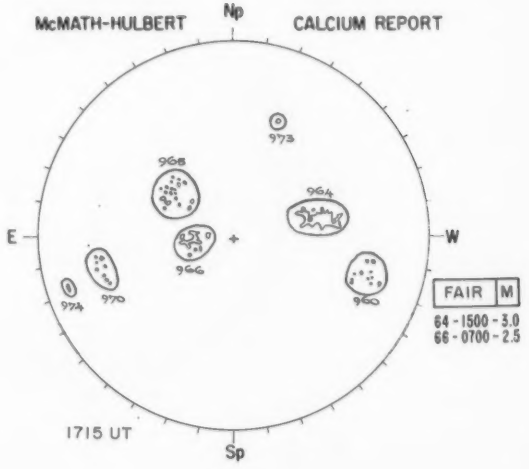


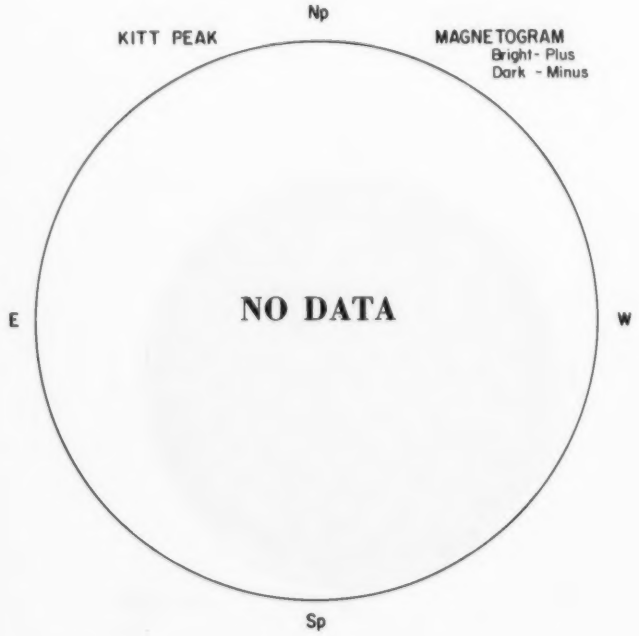
1905 UT

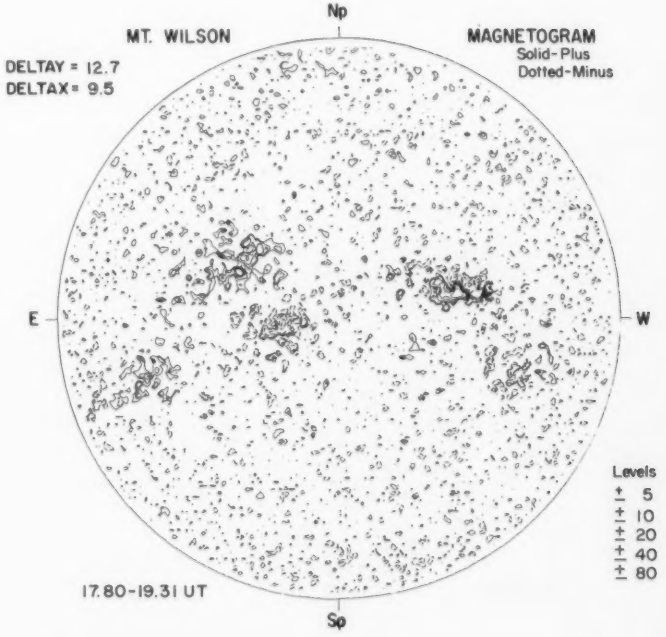
Ant. Temp. Unit 100°K

DECEMBER 6, 1975 (P = 14.37, B_o = 0.28, L_o = 131.15)

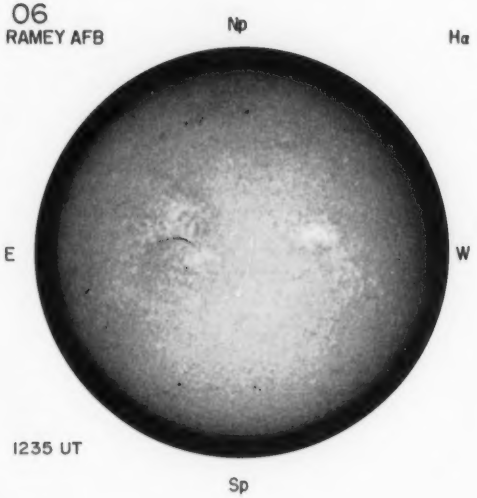




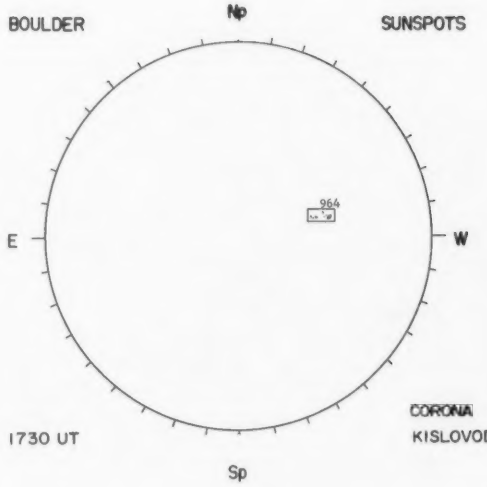




06
RAMEY AFB

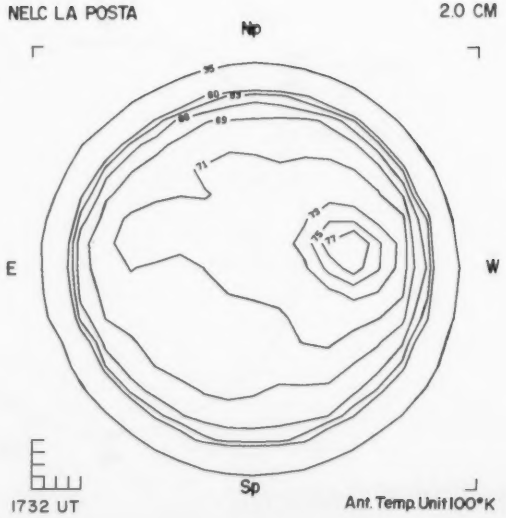


BOULDER

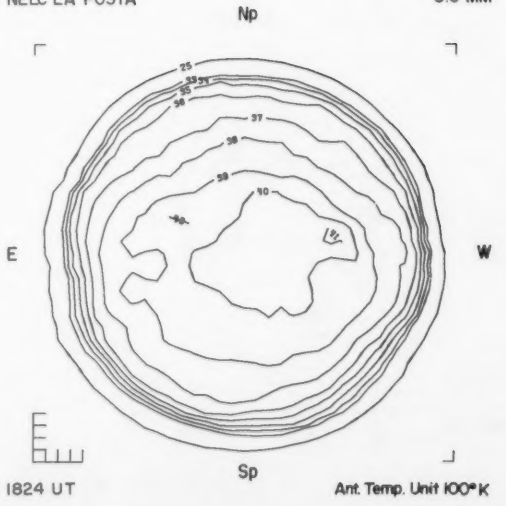


CORONA
KISLOVODSK

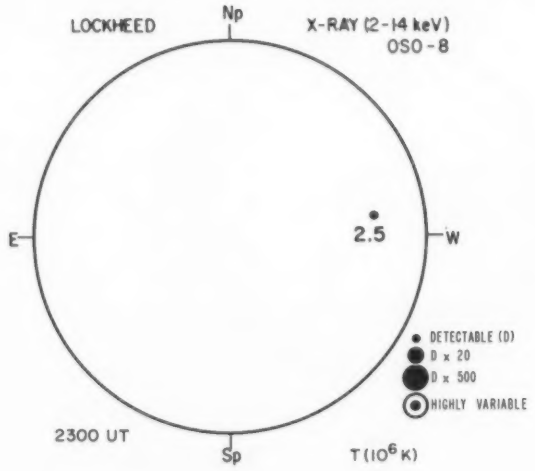
NELC LA POSTA

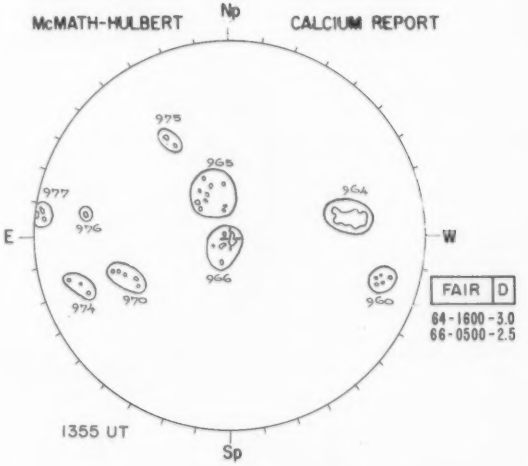


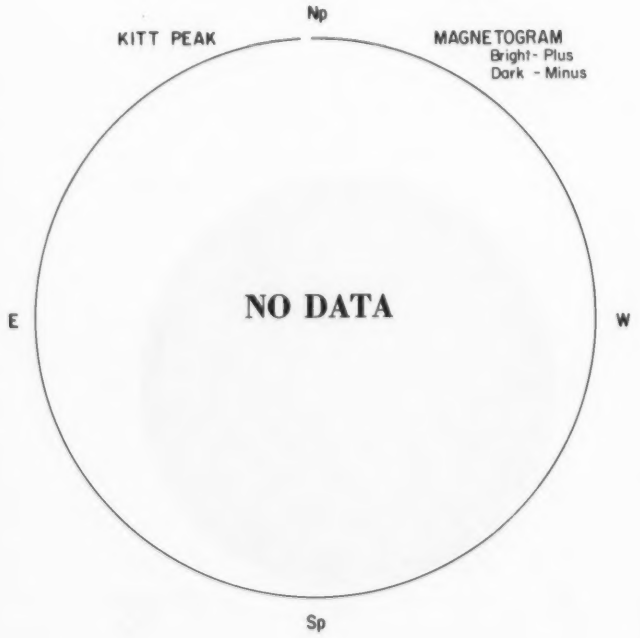
NELC LA POSTA

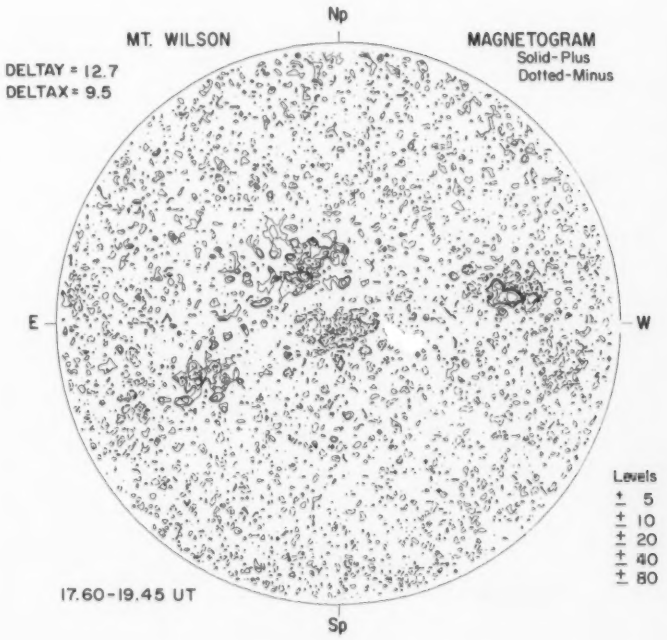


DECEMBER 7, 1975 (P = 13.96, B_0 = 0.15, L_0 = 117.97)

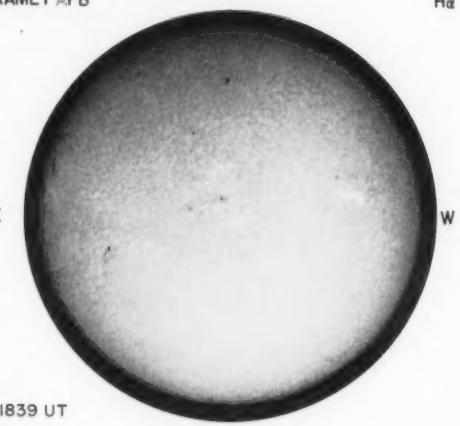






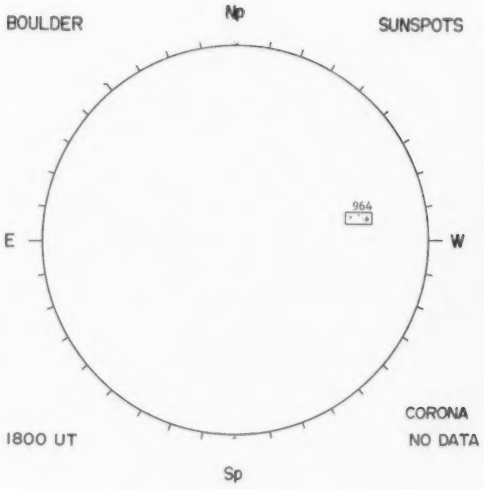


07
RAMEY AFB



1839 UT

BOULDER



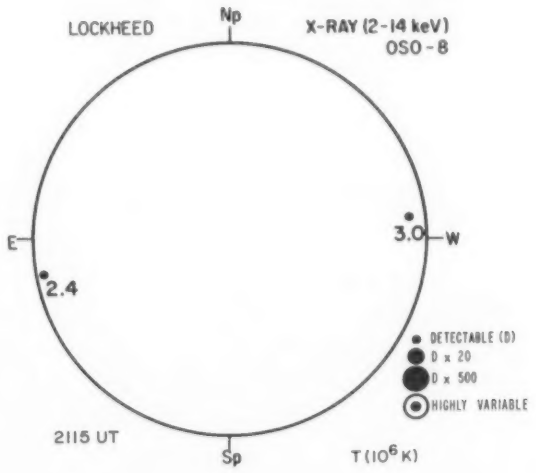
1800 UT

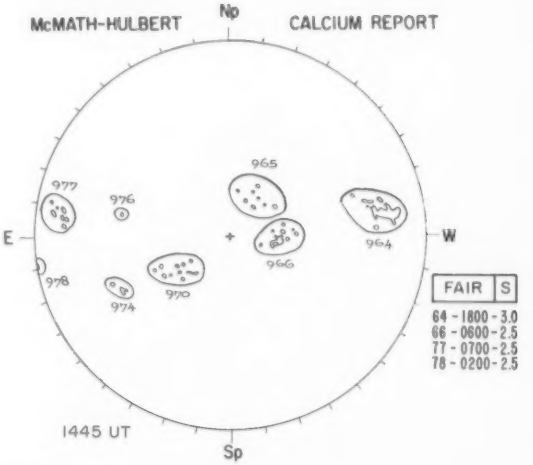
CORONA
NO DATA

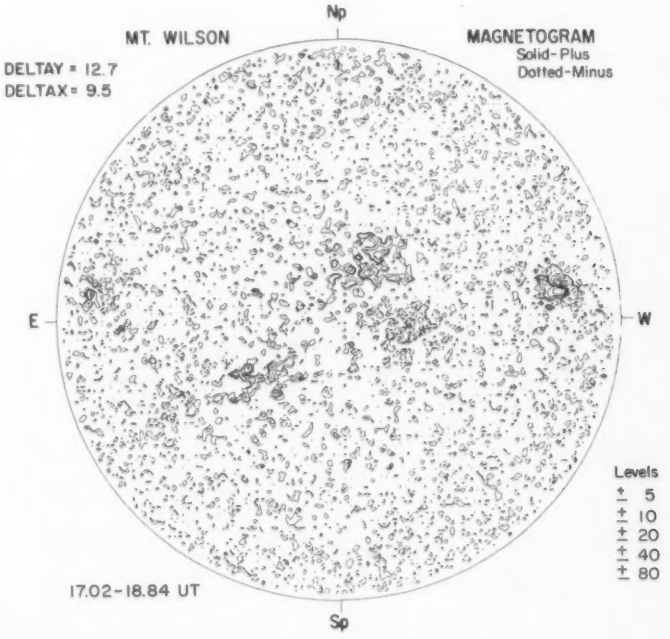
NELC LA POSTA

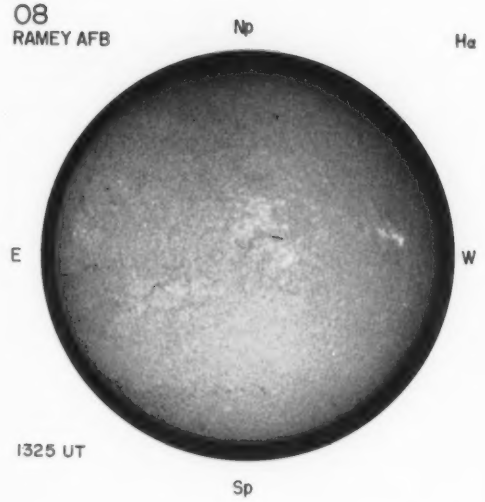
NELC LA POSTA

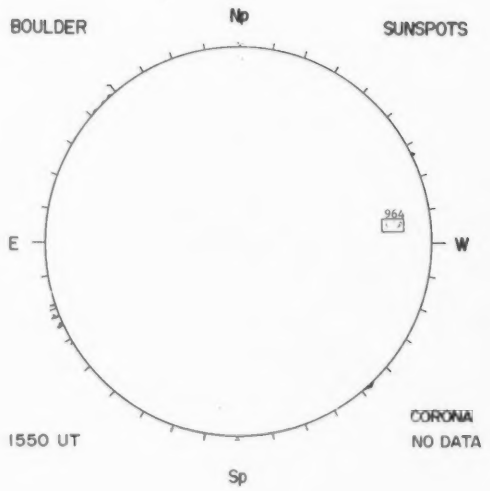
DECEMBER 8, 1975 (P = 13.54, B_o = 0.02, L_o = 104.79)

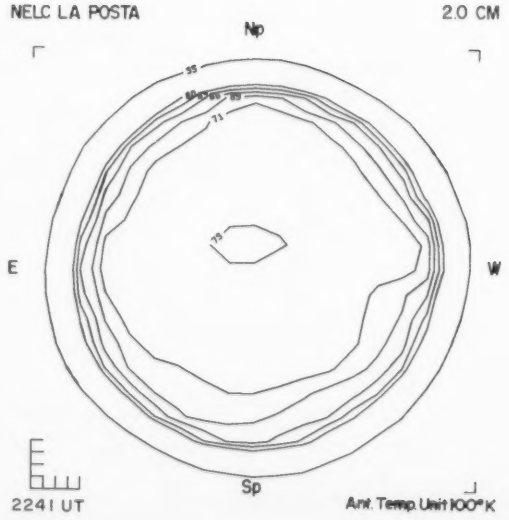


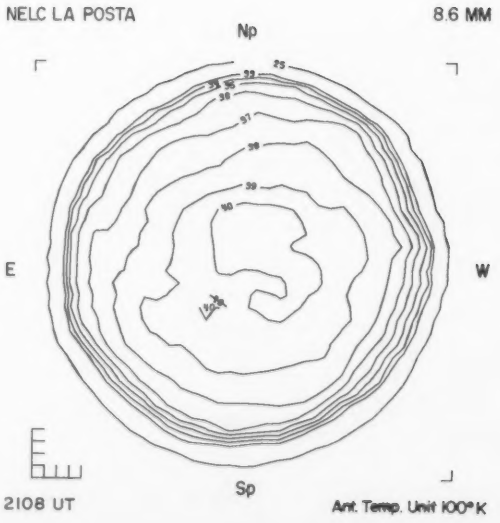




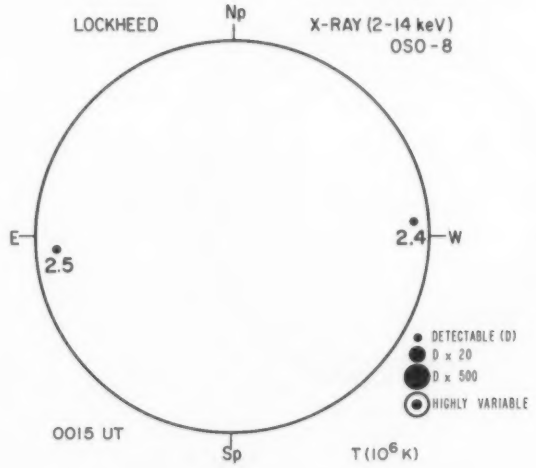

08
RAMEY AFB
Np
Hα
E
W
1325 UT
Sp

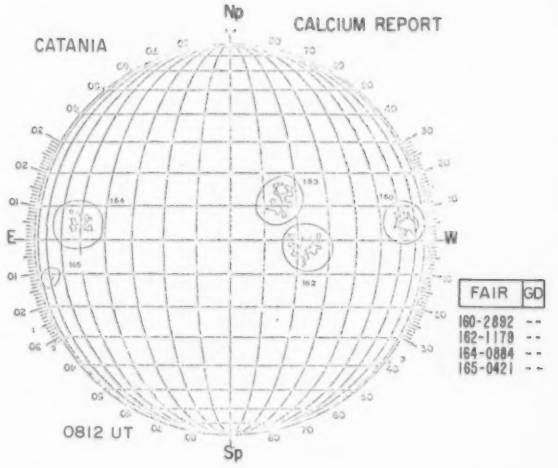

BOULDER
Np
SUNSPOTS
964
E
W
1550 UT
Sp
CORONA
NO DATA

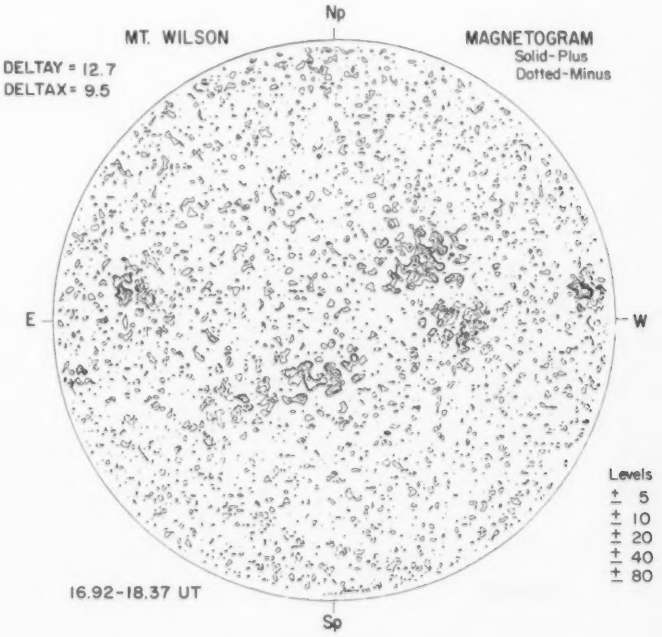

NELC LA POSTA
2.0 CM
Np
E
W
Sp
2241 UT
Ant. Temp. Unit 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
2108 UT
Ant. Temp. Unit 100°K

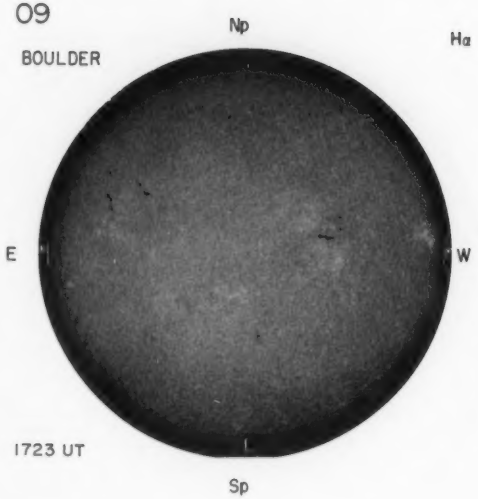
DECEMBER 9, 1975 (P = 13.12, B_o = -0.11, L_o = 91.62)

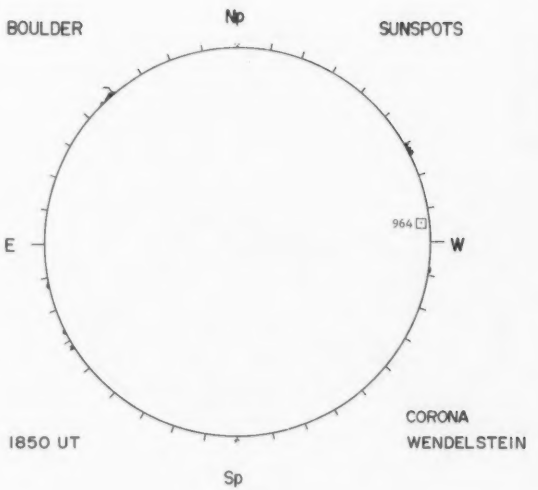


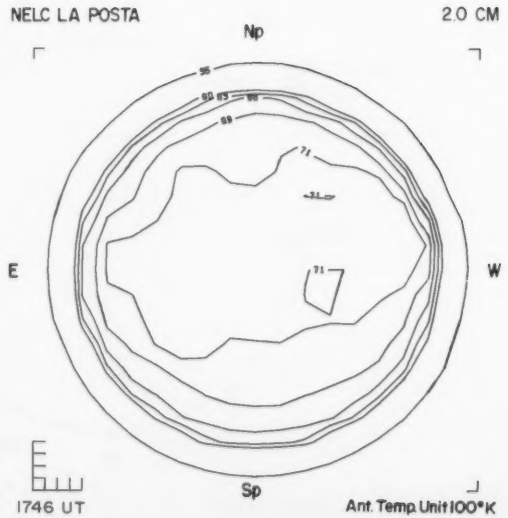


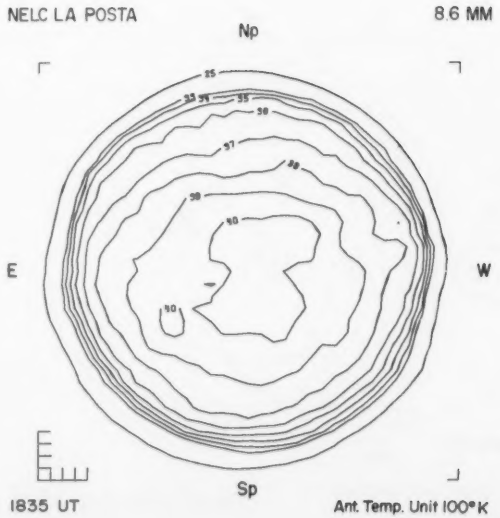


09

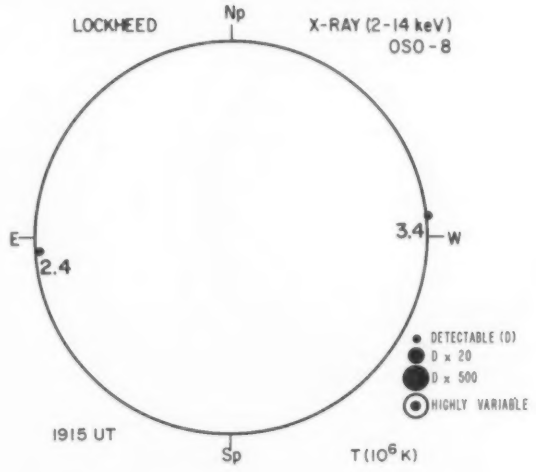

Np
BOULDER
Hα
E
W
1723 UT
Sp

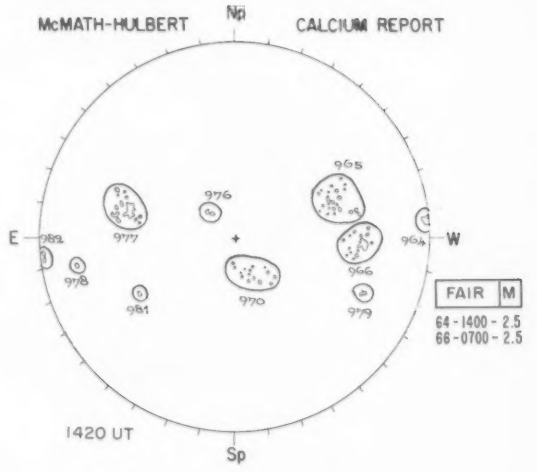

BOULDER
Np
SUNSPOTS
964
E
W
CORONA
WENDELSTEIN
1850 UT
Sp

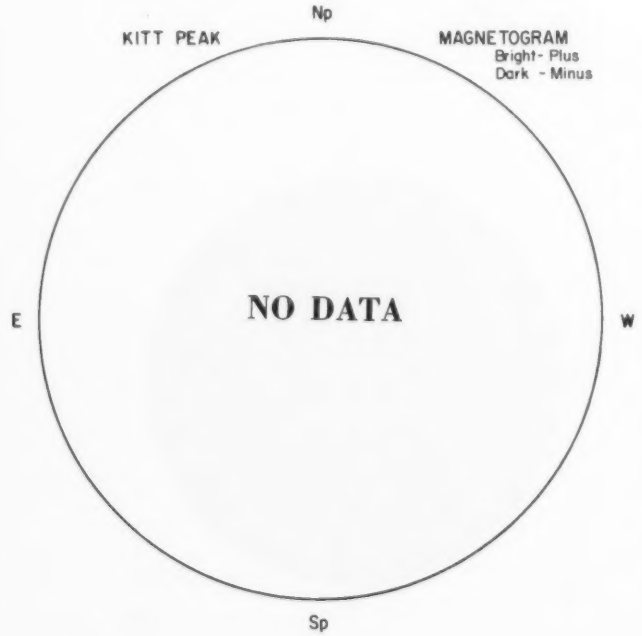

NELC LA POSTA
2.0 CM
Np
E
W
Sp
1746 UT
Ant. Temp. Unit 100°K

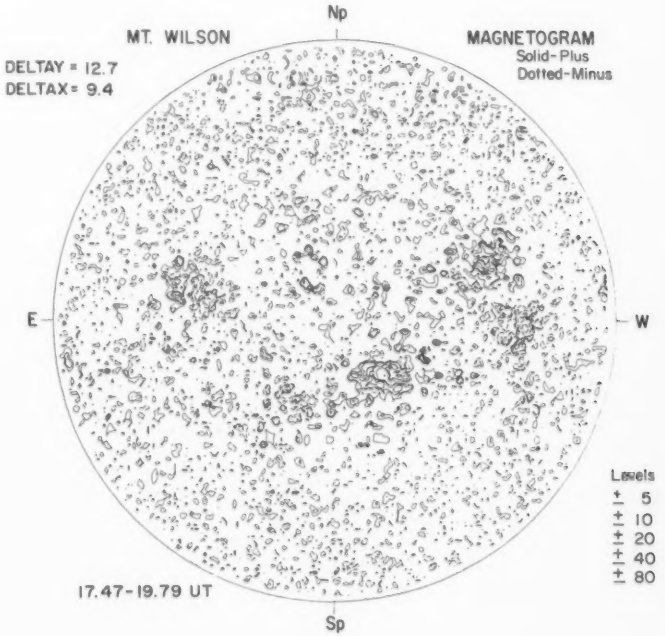

NELC LA POSTA
8.6 MM
Np
E
W
Sp
1835 UT
Ant. Temp. Unit 100°K

DECEMBER 10, 1975 (P = 12.69, B_o = -0.24, L_o = 78.44)









10

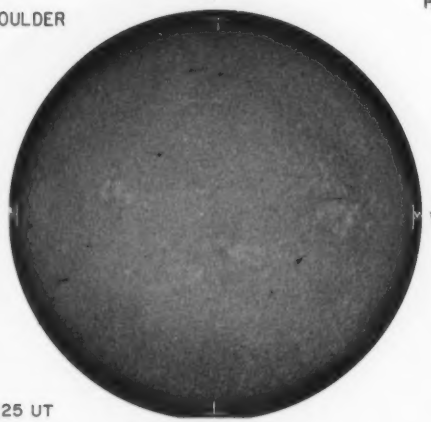
BOULDER

Np

Hα

E

W



1825 UT

Sp

BOULDER

Np

SUNSPOTS

E

NO SPOTS VISIBLE

W

CORONA
WENDELSTEIN

1830 UT

Sp

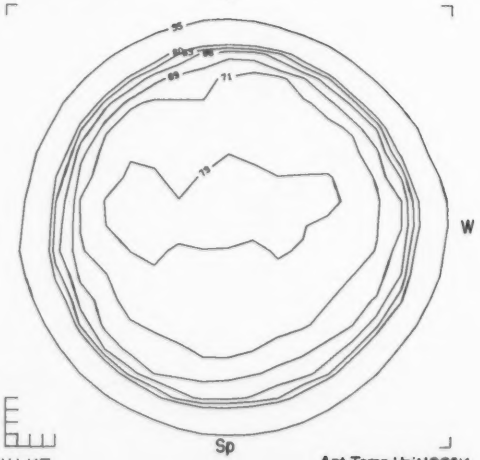
NELC LA POSTA

2.0 CM

Np

E

W



Sp

2111 UT

Ant. Temp. Unit 100°K

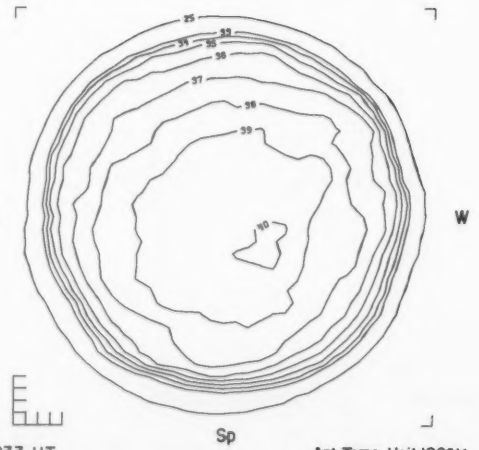
NELC LA POSTA

8.6 MM

Np

E

W

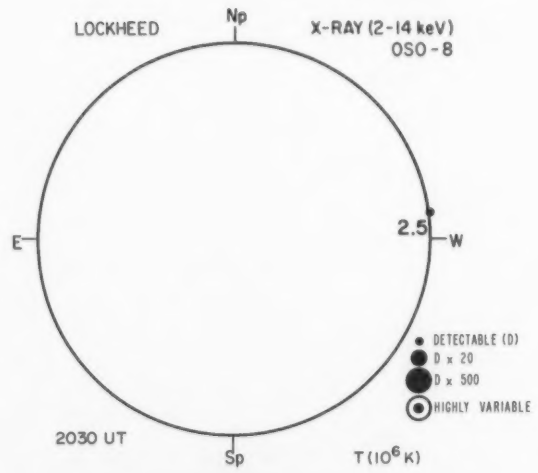


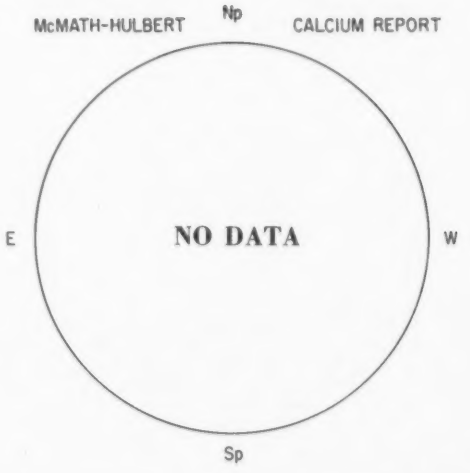
Sp

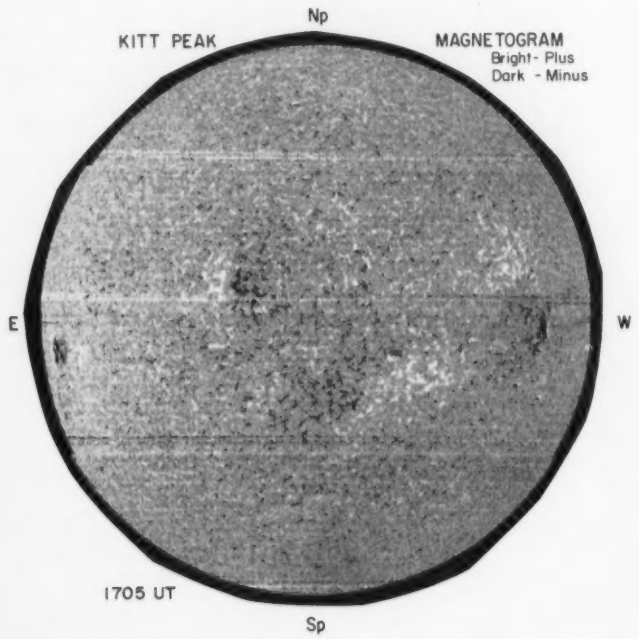
1933 UT

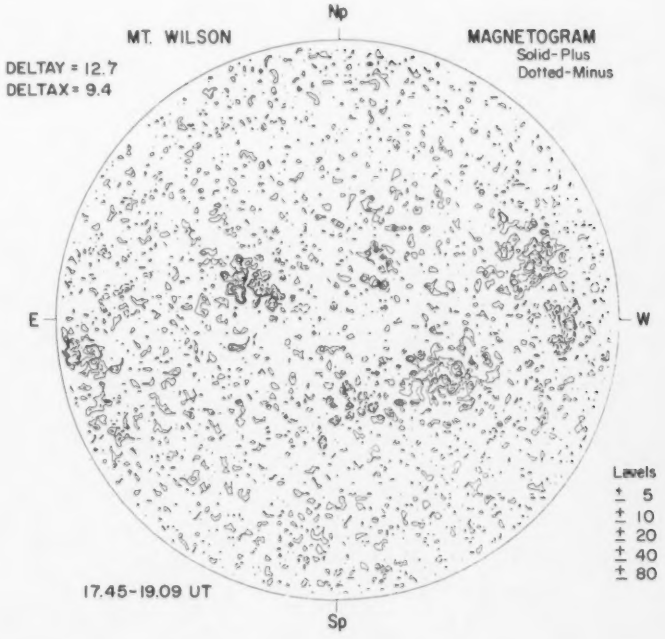
Ant. Temp. Unit 100°K

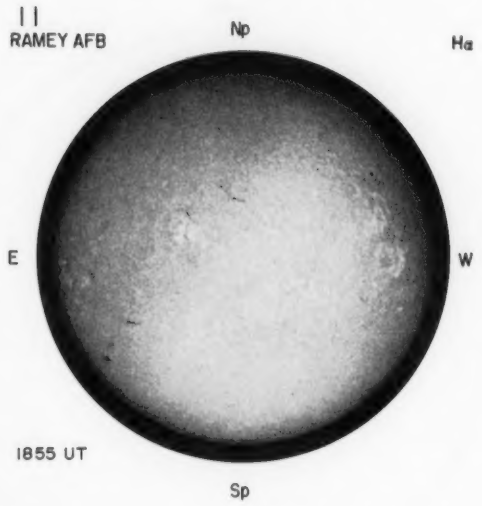
DECEMBER 11, 1975 (P = 12.26, B_0 = -0.36, L_0 = 65.26)

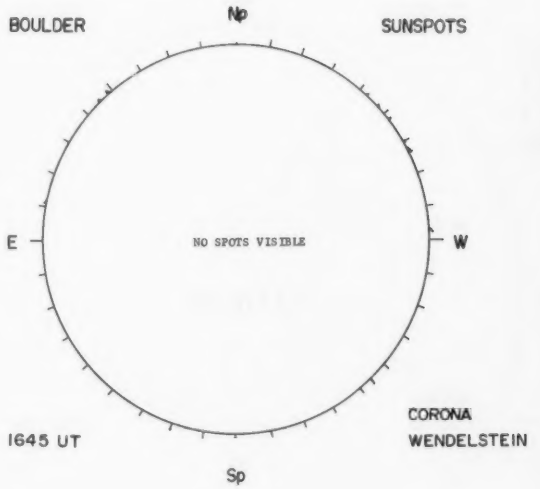


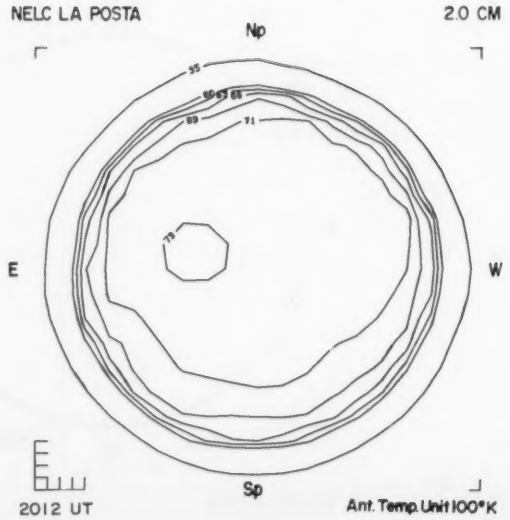


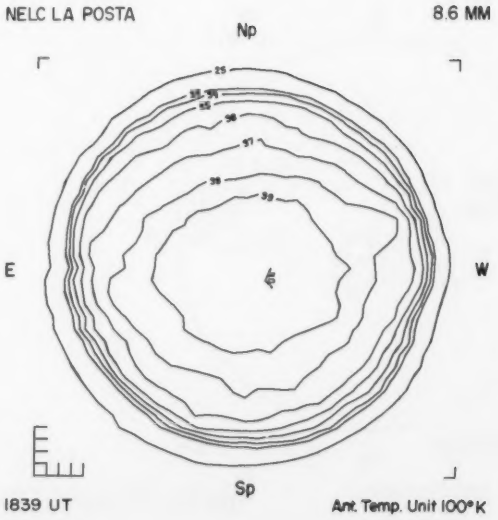




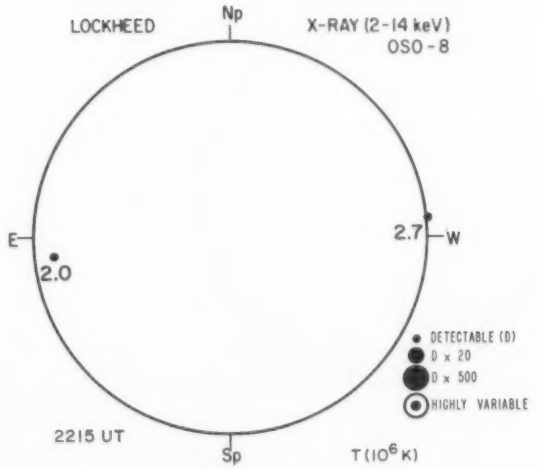

RAMEY AFB
Np
Hα
E
W
1855 UT
Sp

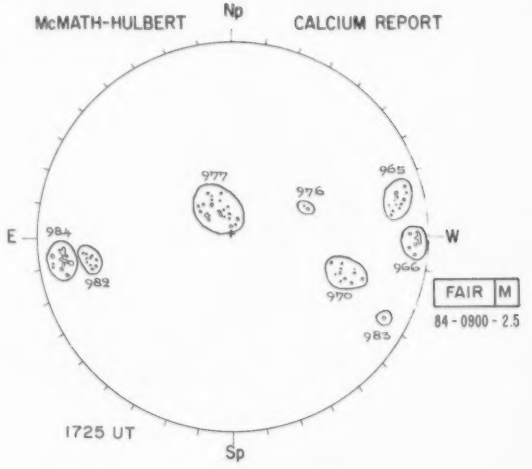

BOULDER
Np
SUNSPOTS
NO SPOTS VISIBLE
E
W
1645 UT
Sp
CORONA
WENDELSTEIN

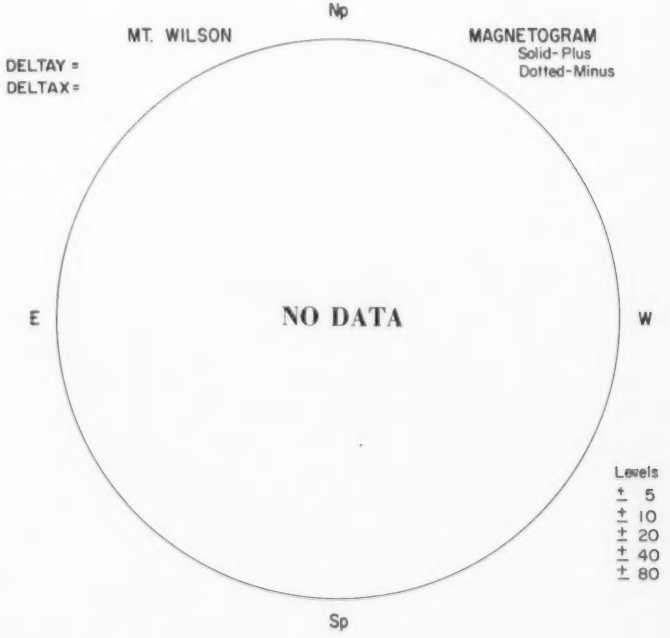

NELC LA POSTA
2.0 CM
Np
E
W
Sp
2012 UT
Ant. Temp. Unit 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
1839 UT
Ant. Temp. Unit 100°K

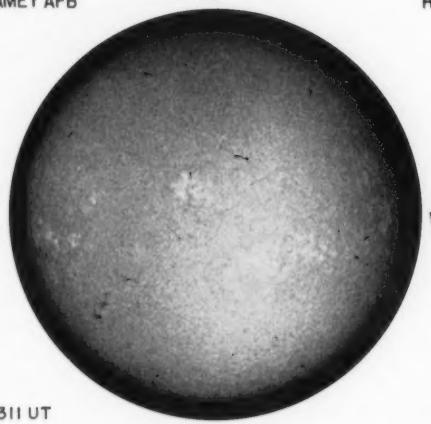
DECEMBER 12, 1975 (P = 11.82, B_0 = -0.49, L_0 = 52.09)



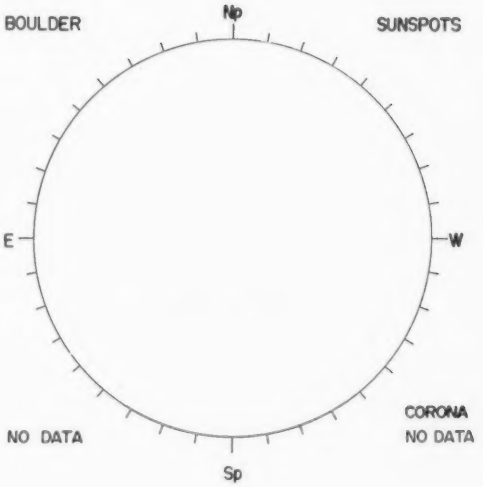




12
RAMEY AFB



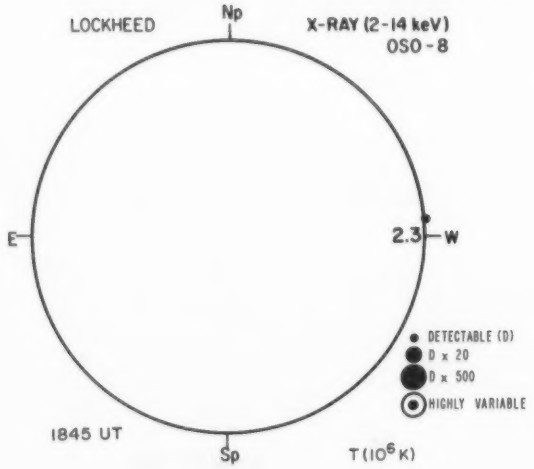
BOULDER

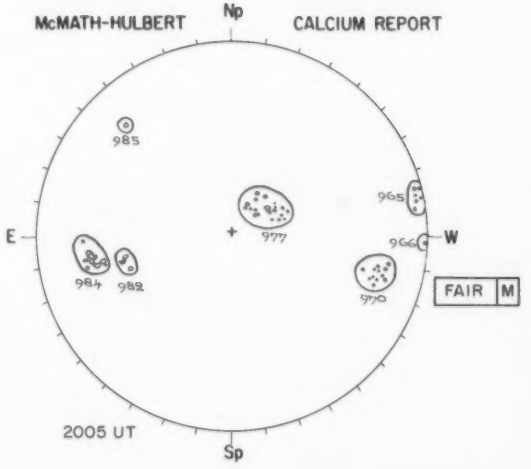


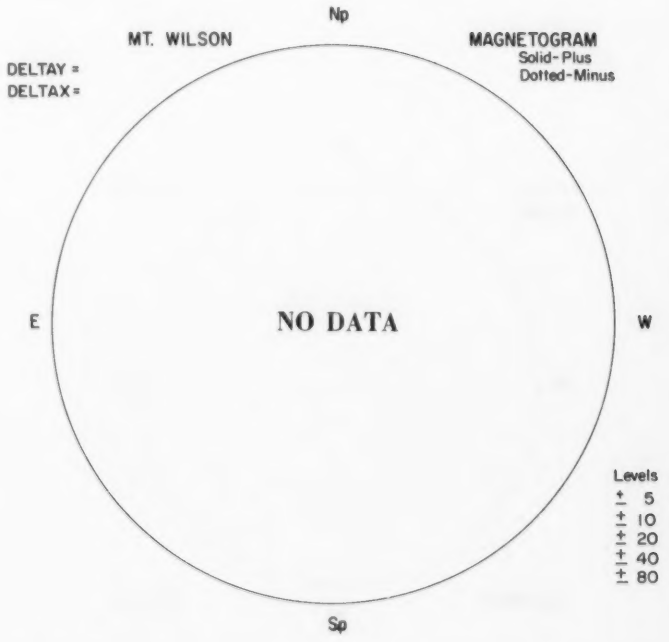
NELC LA POSTA

NELC LA POSTA

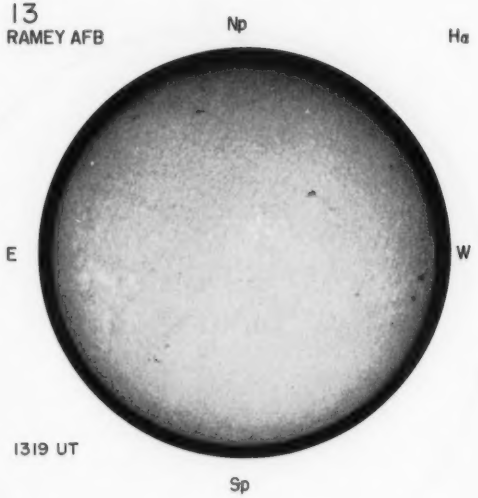
DECEMBER 13, 1975 (P = 11.38, B_o = -0.62, L_o = 38.91)





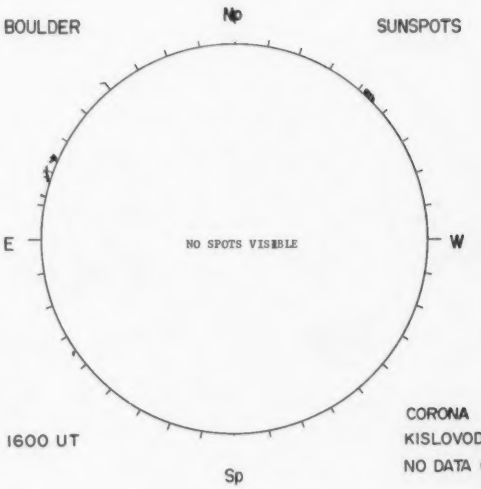


13
RAMEY AFB



1319 UT

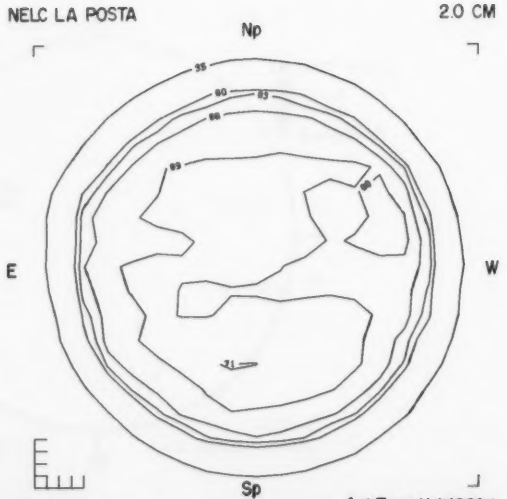
BOULDER



1600 UT

CORONA
KISLOVODSK
NO DATA 0°-65°
175°

NELC LA POSTA



1729 UT

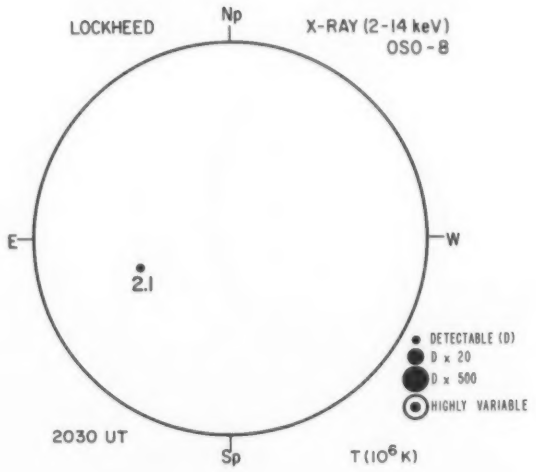
Ant. Temp. Unit 100°K

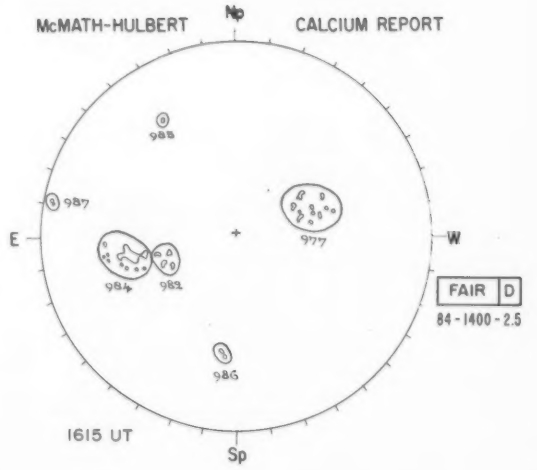
NELC LA POSTA

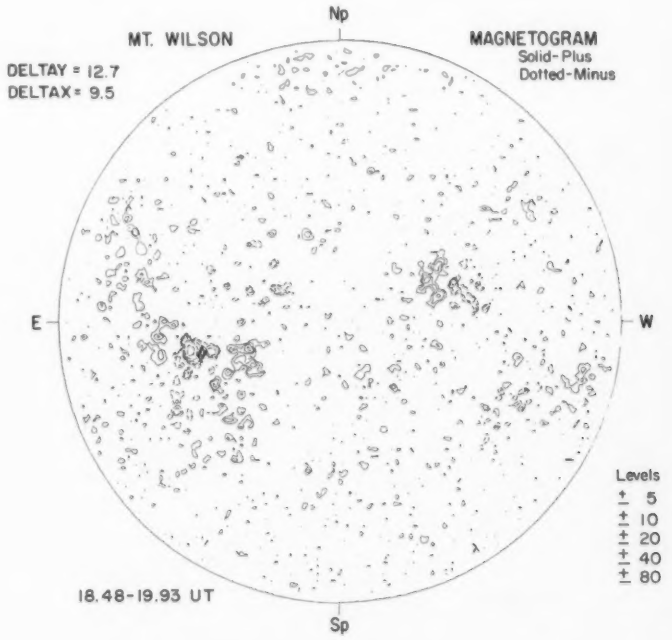
---- UT

Ant. Temp. Unit 100°K

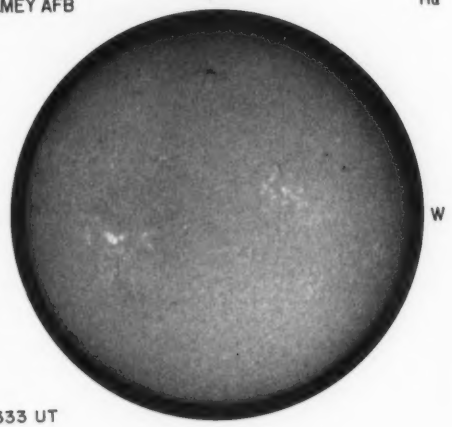
DECEMBER 14, 1975 (P = 10.94, B_0 = -0.75, L_0 = 25.74)





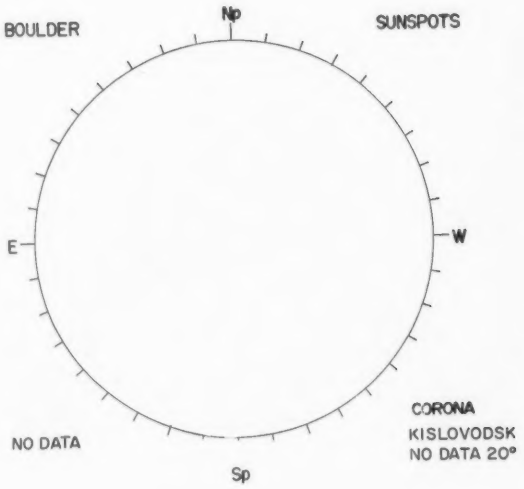


14
RAMEY AFB



1333 UT

BOULDER



SUNSPOTS

NO DATA

CORONA
KISLOVODSK
NO DATA 20°

NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

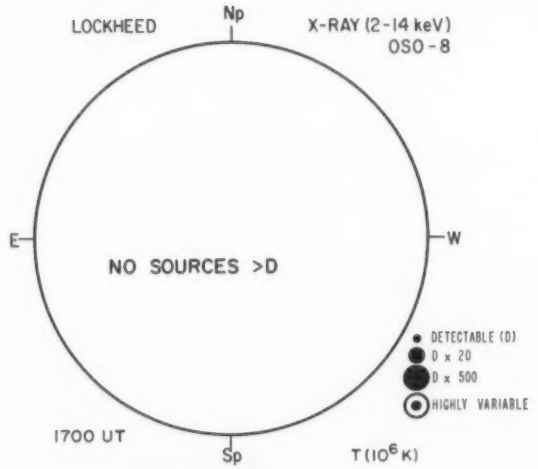
W

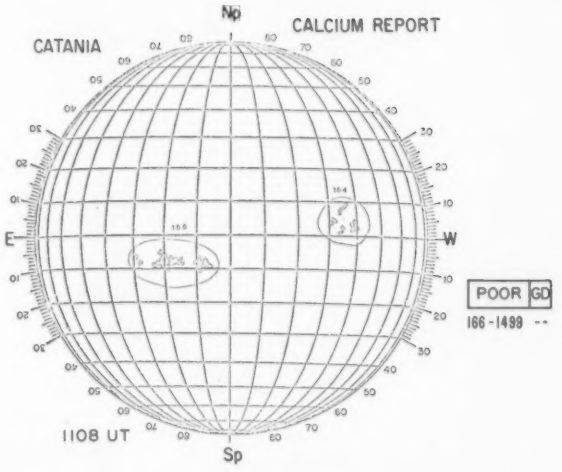
---- UT

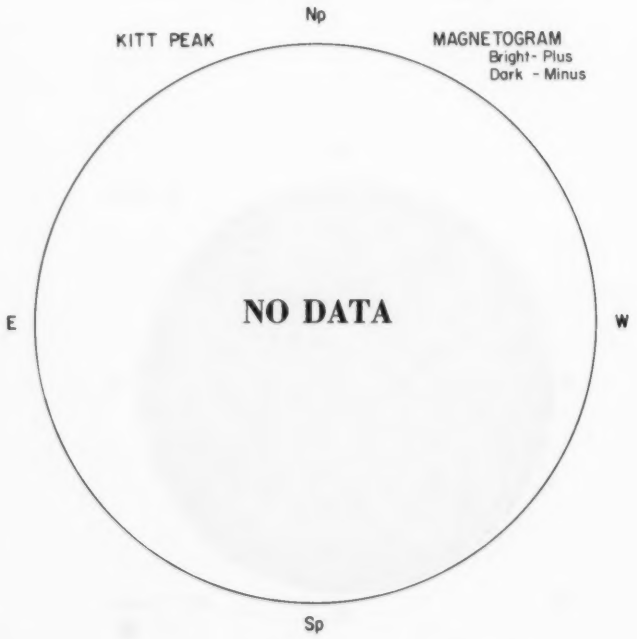
Sp

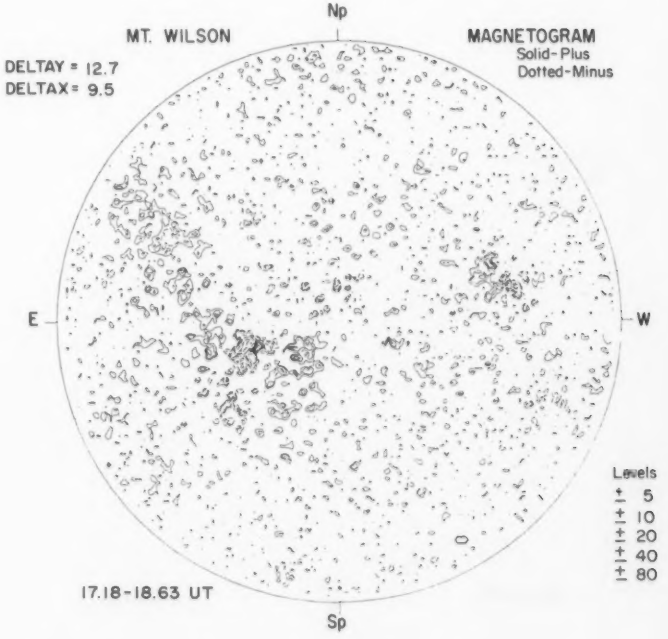
Ant. Temp. Unit 100°K

DECEMBER 15, 1975 (P = 10.49, B_o = -0.87, L_o = 12.56)



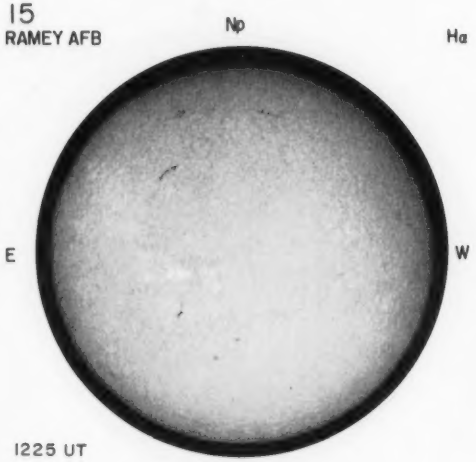




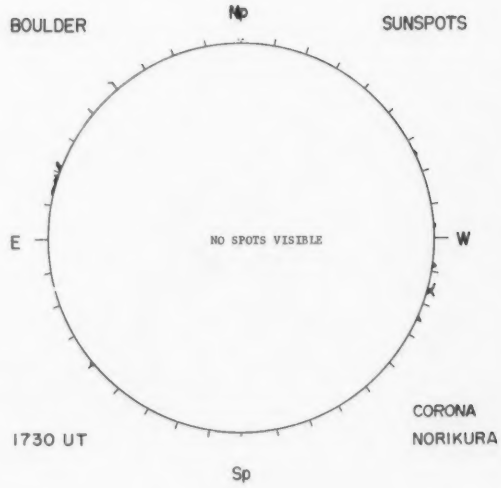


15

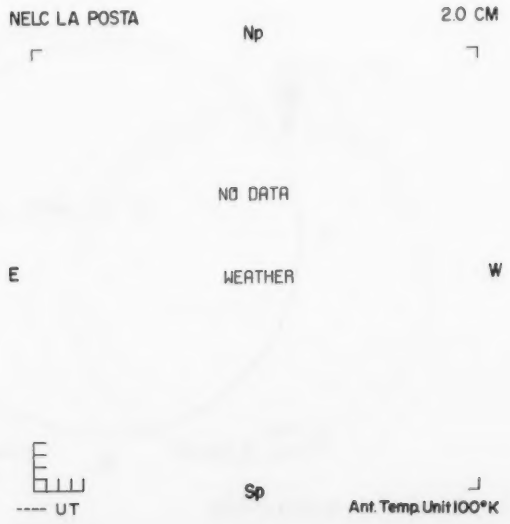
RAMEY AFB



BOULDER

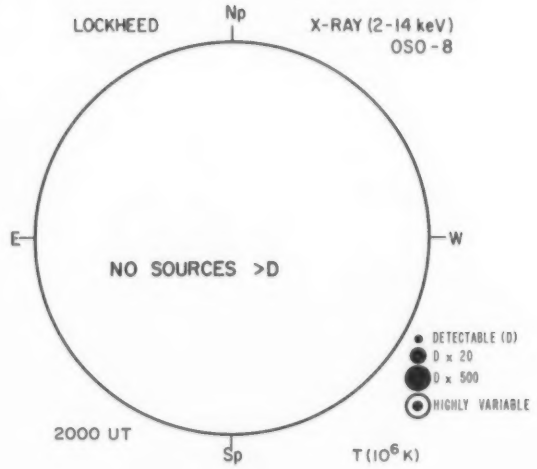


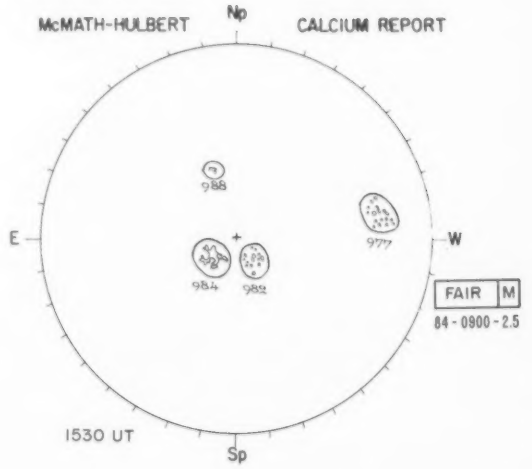
NELC LA POSTA

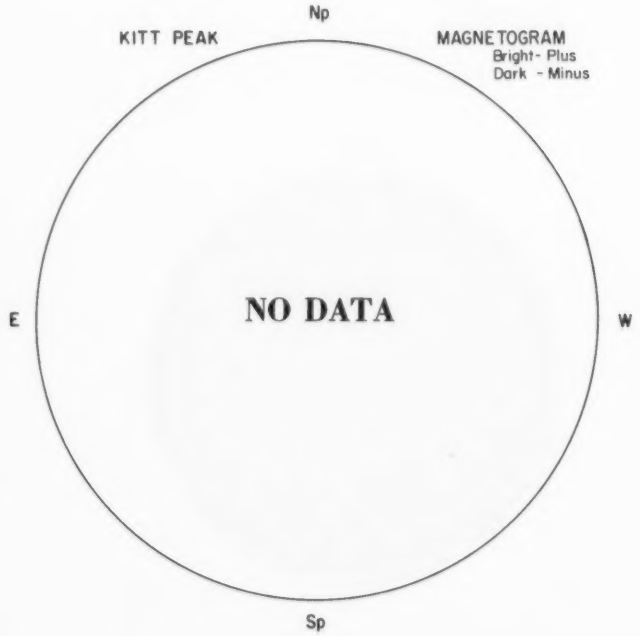


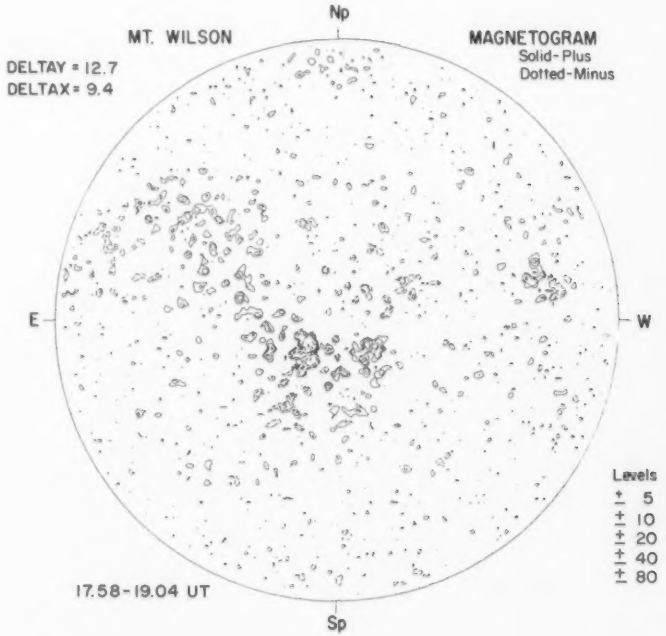
NELC LA POSTA

DECEMBER 16, 1975 (P = 10.04, B_o = -1.00, L_o = 359.39)

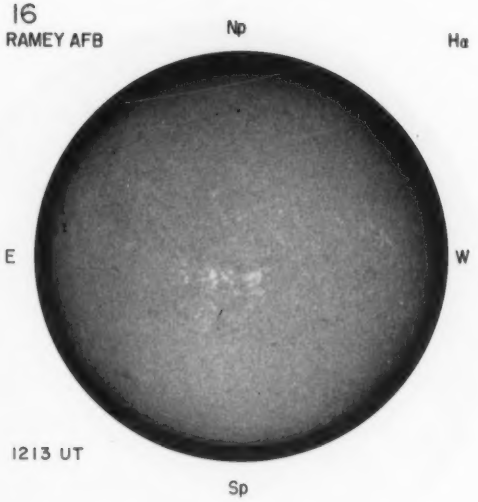






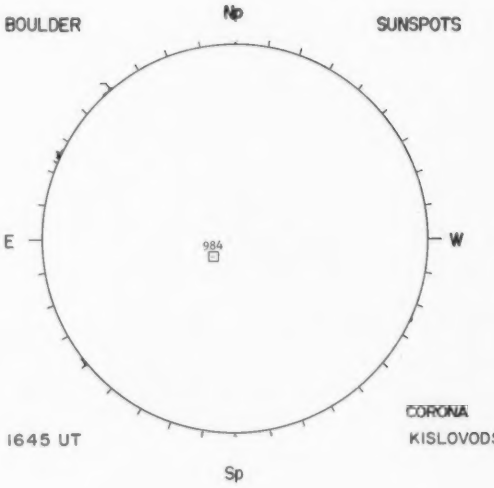


16
RAMEY AFB



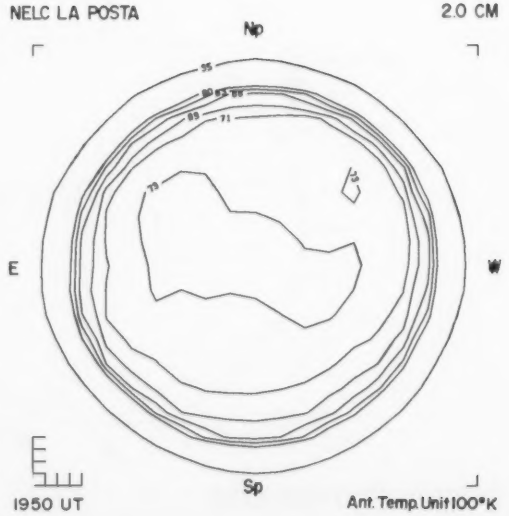
1213 UT

BOULDER



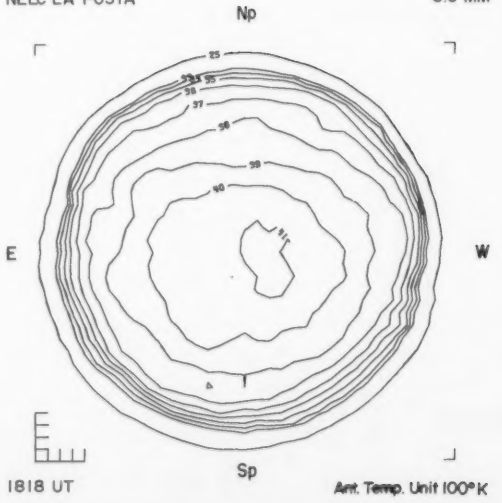
CORONA
KISLOVODSK
1645 UT

NELC LA POSTA



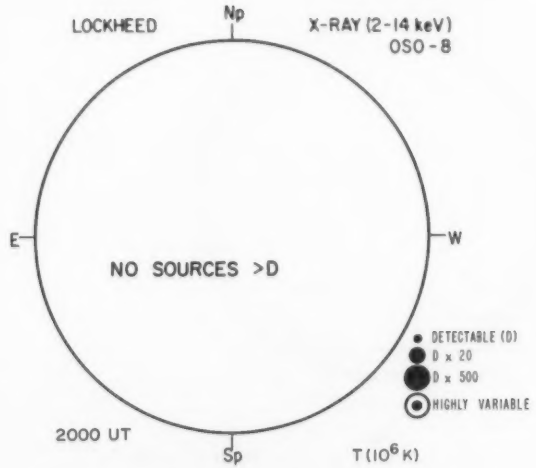
1950 UT
Ant. Temp. Unit 100°K

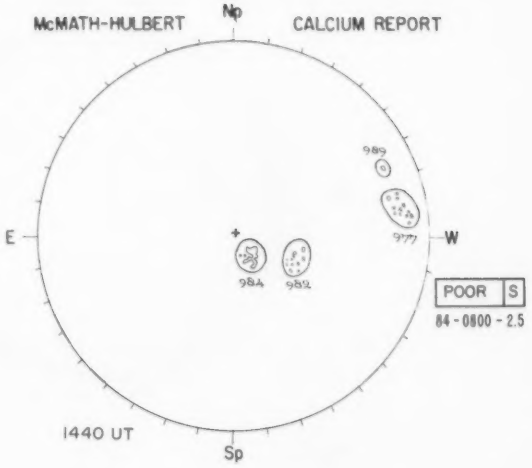
NELC LA POSTA

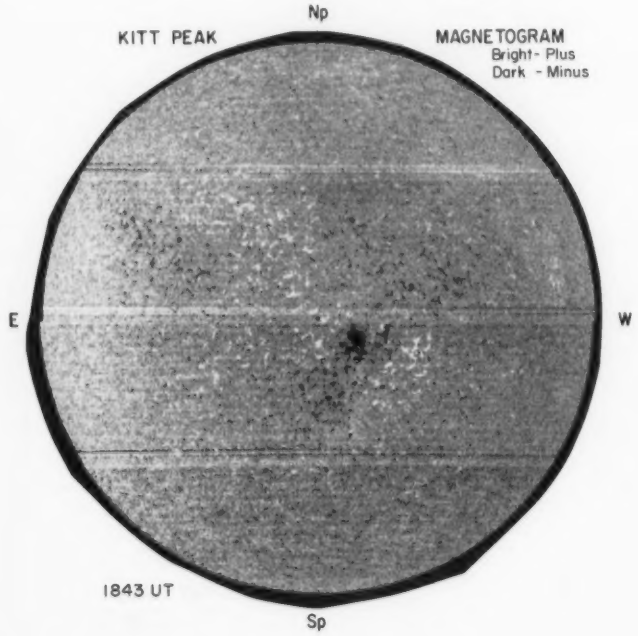


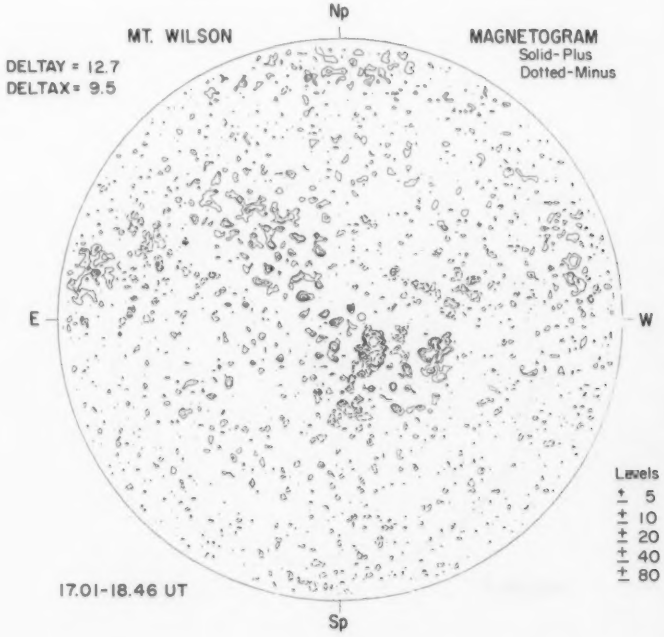
1818 UT
Ant. Temp. Unit 100°K

DECEMBER 17, 1975 (P = 9.58, B_0 = -1.13, L_0 = 346.21)



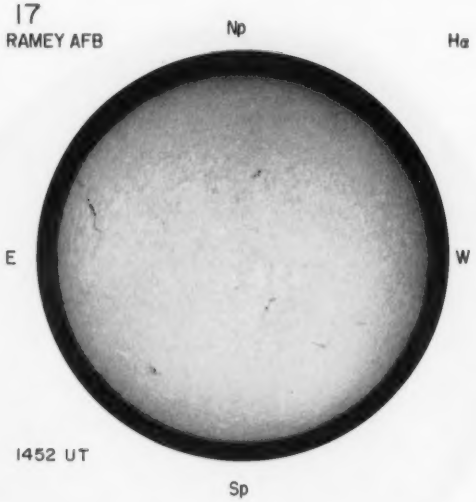






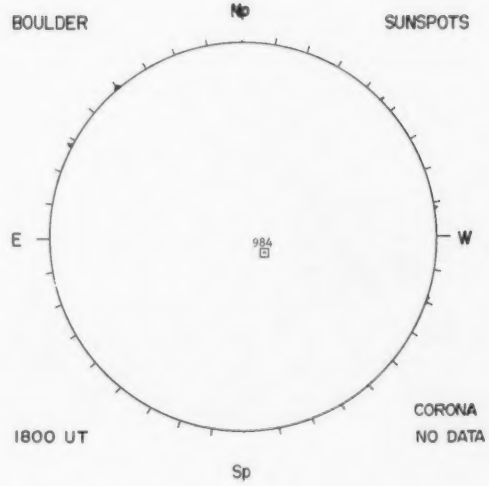
17

RAMEY AFB



1452 UT

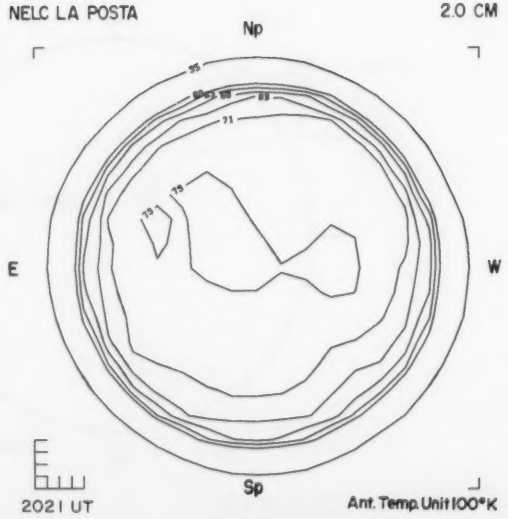
BOULDER



1800 UT

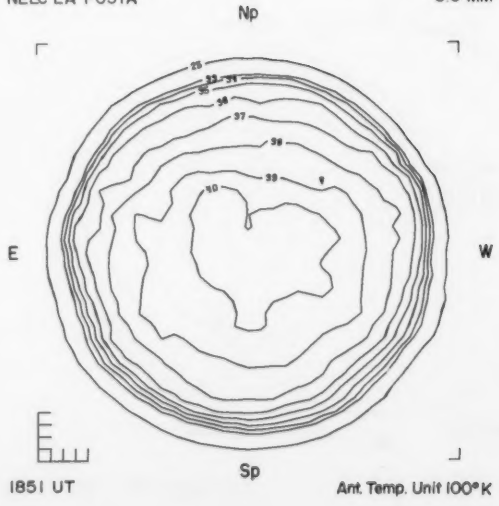
CORONA
NO DATA

NELC LA POSTA



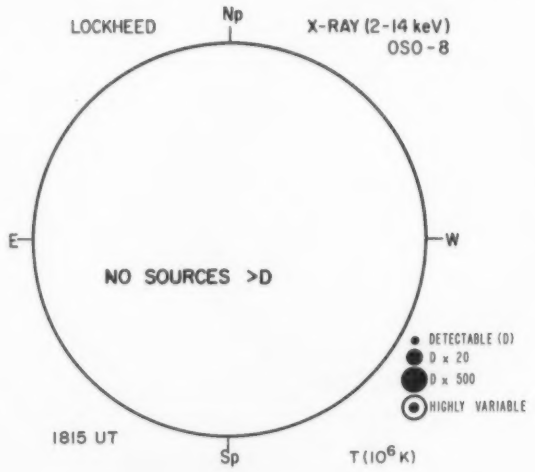
2021 UT

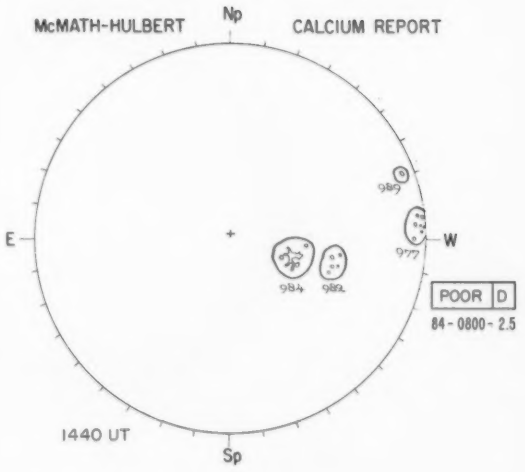
NELC LA POSTA

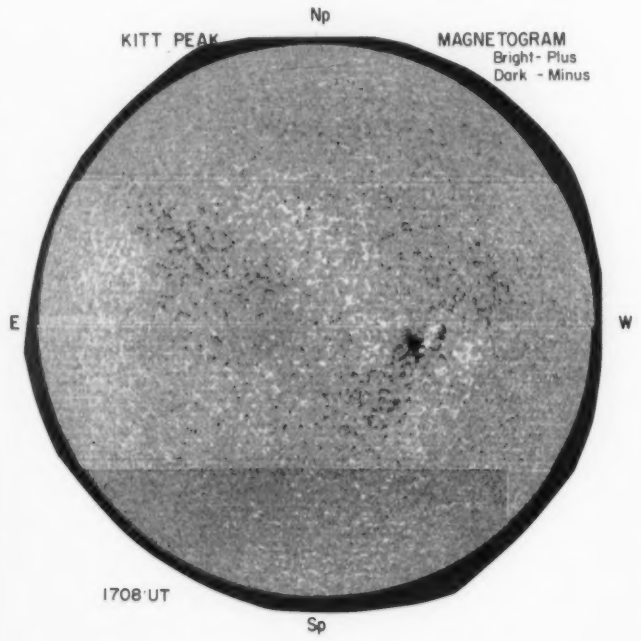


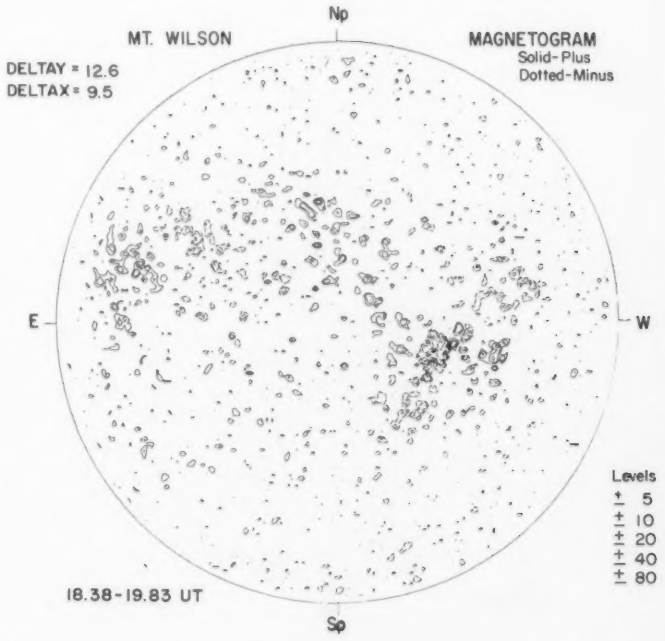
1851 UT

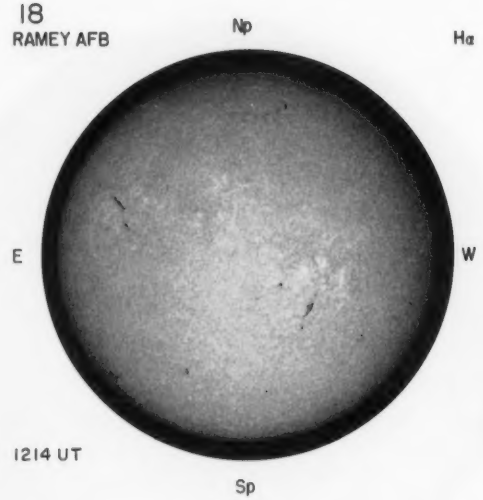
DECEMBER 18, 1975 (P = 9.12, B_o = -1.26, L_o = 333.04)

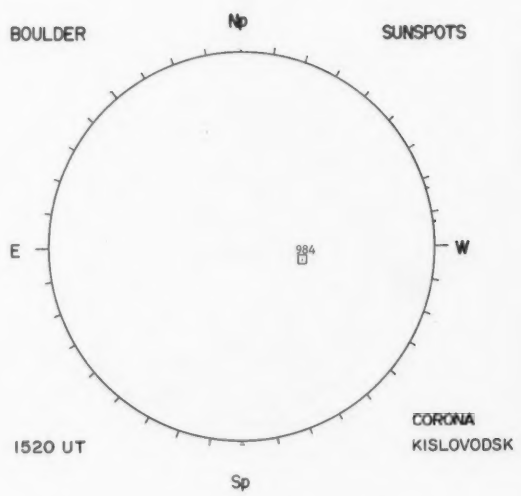


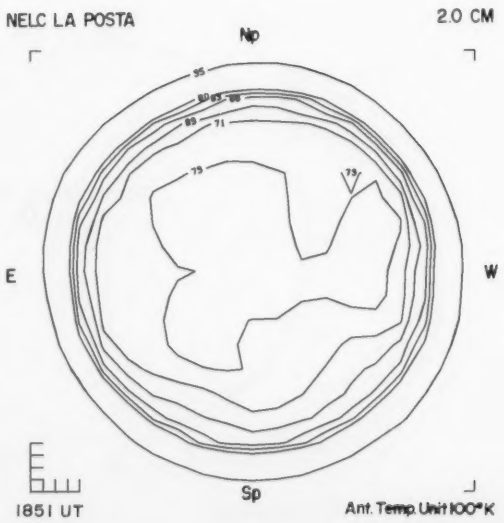


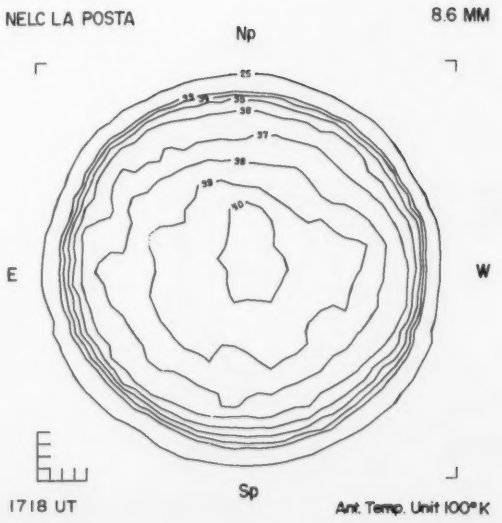




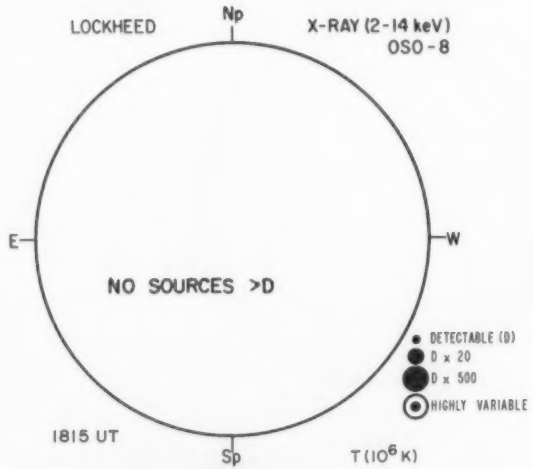

18
RAMEY AFB
Np
Hα
E
W
1214 UT
Sp

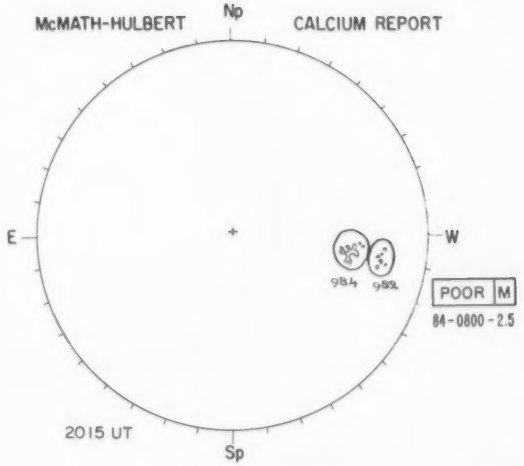

BOULDER
Np
SUNSPOTS
E
W
884
CORONA
KISLOVODSK
1520 UT
Sp

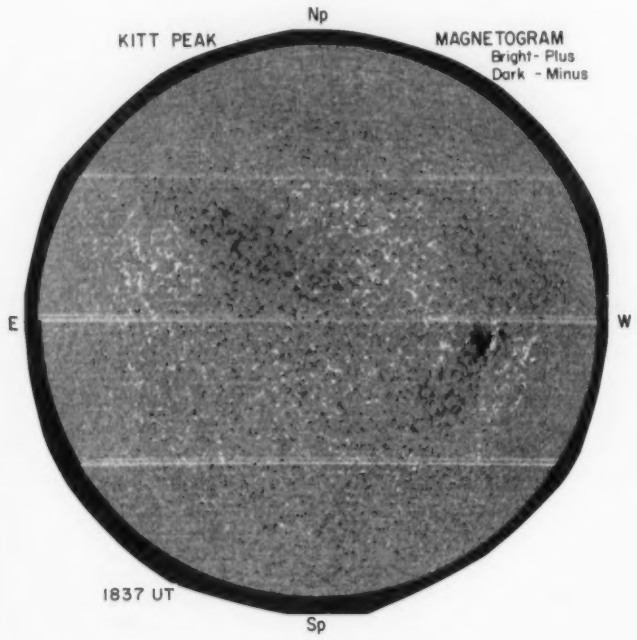

NELC LA POSTA
2.0 CM
Np
95
90
85
88
89
71
75
75
E
W
Sp
1851 UT
Ant. Temp. Unit 100°K

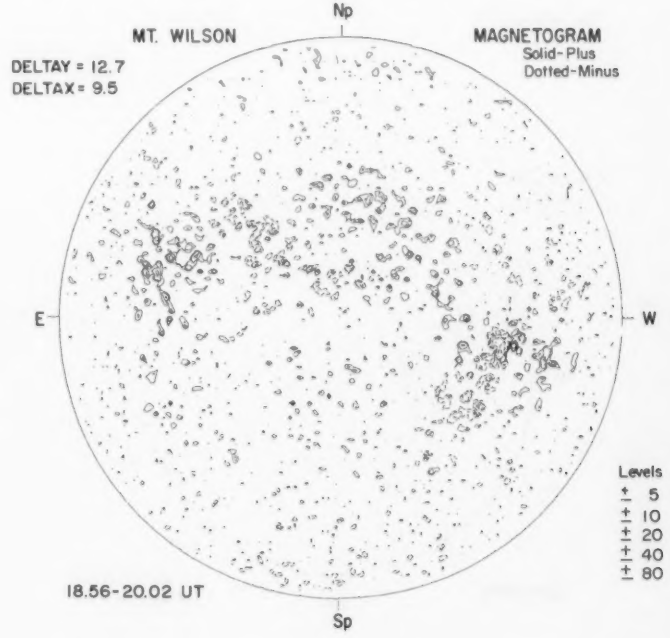

NELC LA POSTA
8.6 MM
Np
25
33
35
36
37
38
39
40
E
W
Sp
1718 UT
Ant. Temp. Unit 100°K

DECEMBER 19, 1975 (P = 8.66, B_0 = -1.38, L_0 = 319.86)



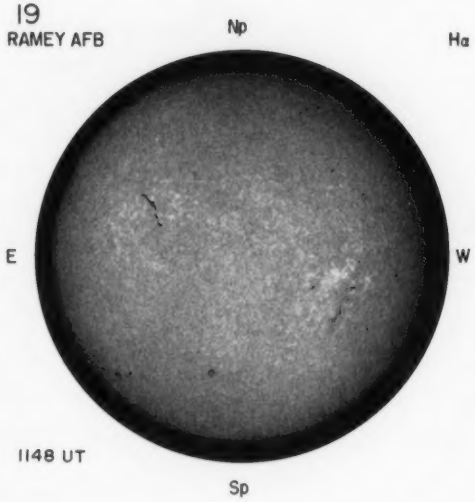






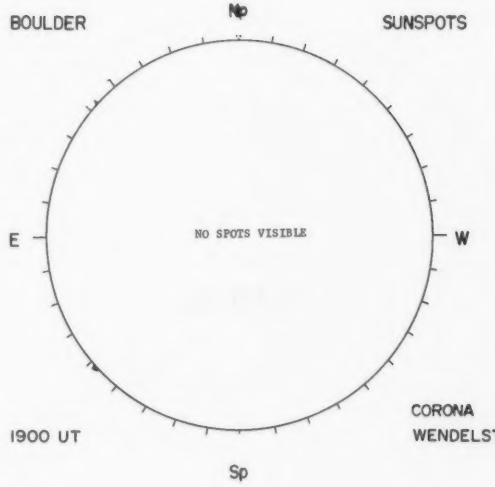
19

RAMEY AFB



1148 UT

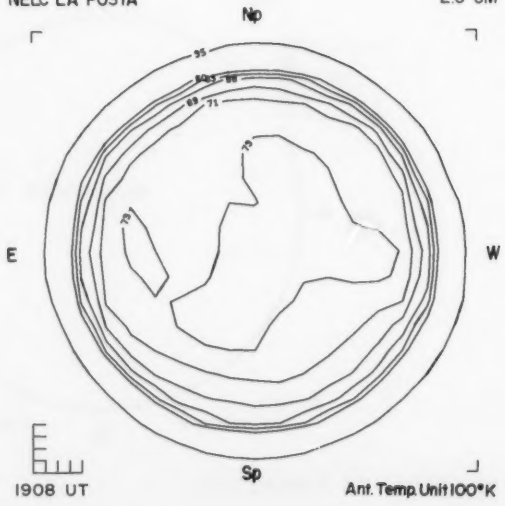
BOULDER



1900 UT

CORONA
WENDELSTEIN

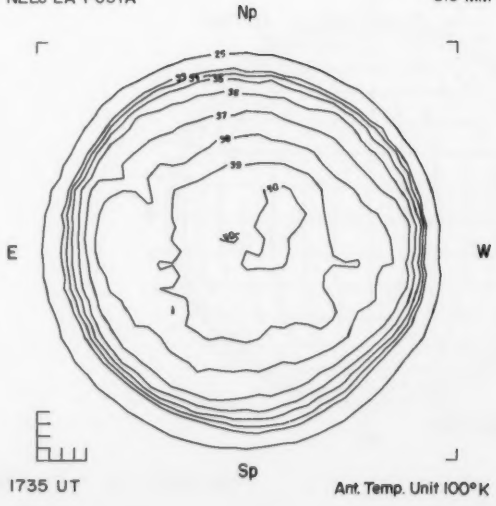
NELC LA POSTA



1908 UT

Ant. Temp. Unit 100°K

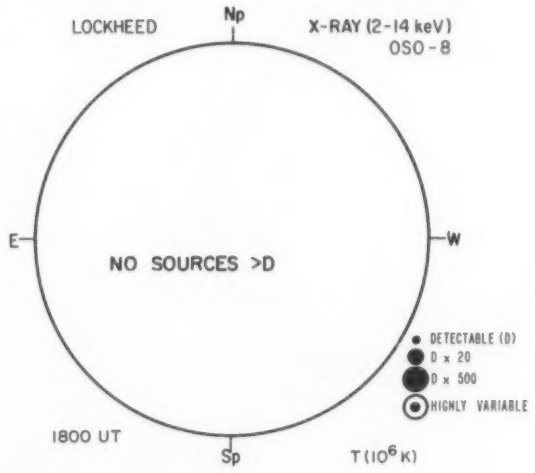
NELC LA POSTA

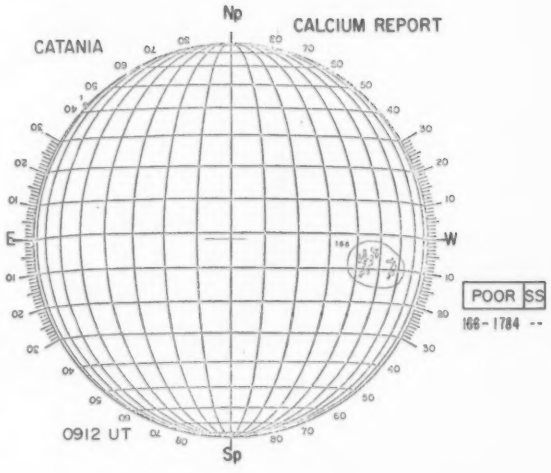


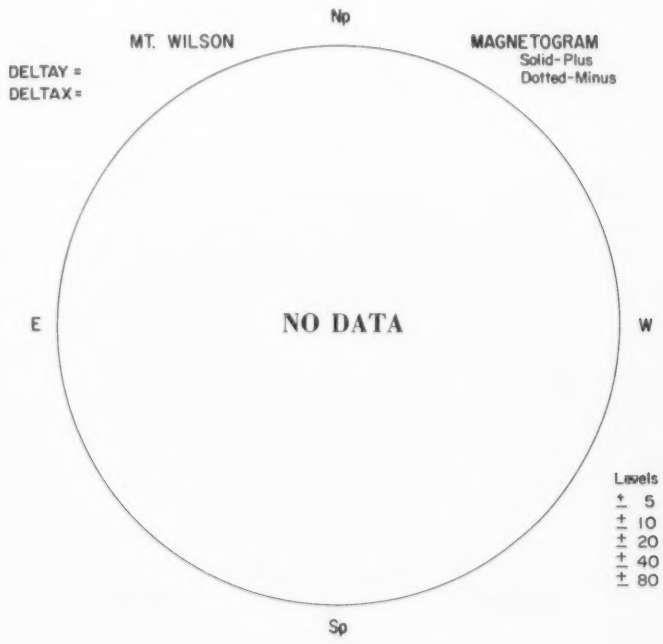
1735 UT

Ant. Temp. Unit 100°K

DECEMBER 20, 1975 (P = 8.19, B_0 = -1.51, L_0 = 306.69)







20

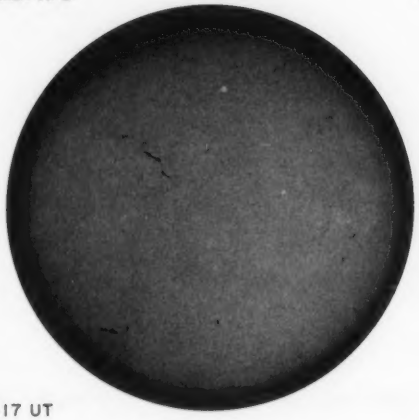
RAMEY AFB

Np

Hα

E

W



1217 UT

Sp

BOULDER

Np

SUNSPOTS

E

NO SPOTS VISIBLE

W

CORONA

WENDELSTEIN

1600 UT

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

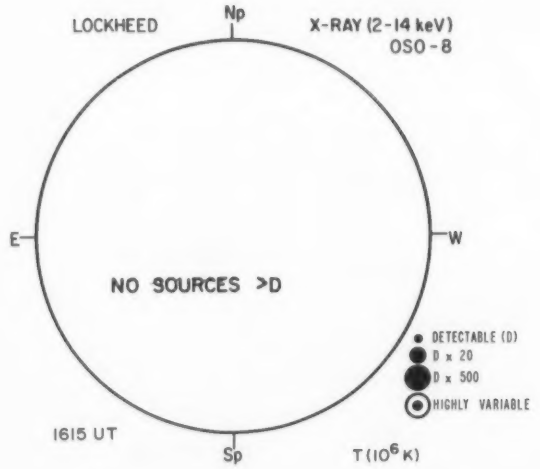
W

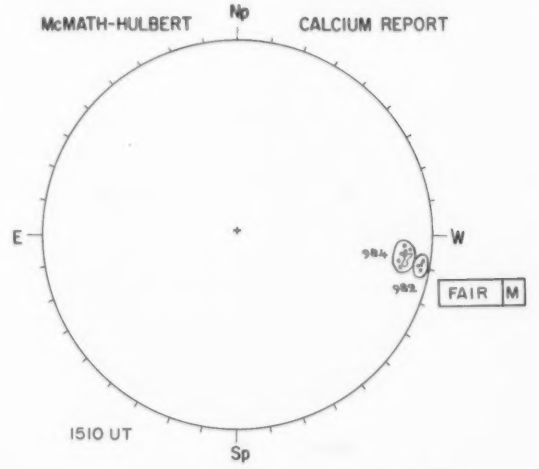
---- UT

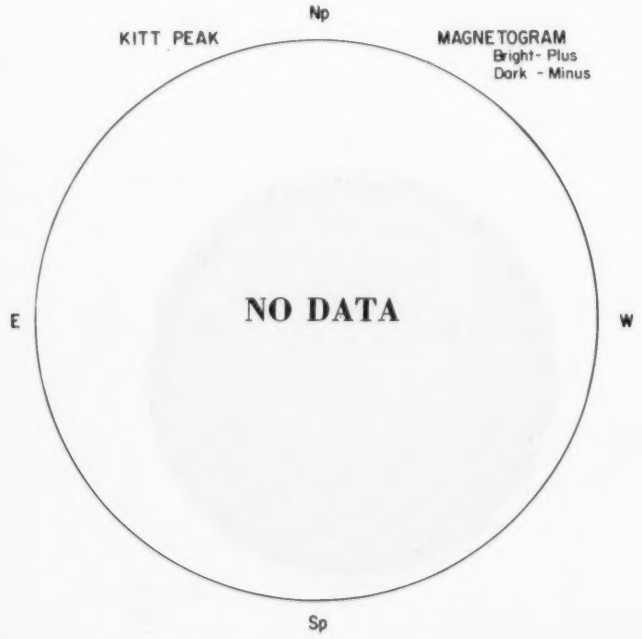
Sp

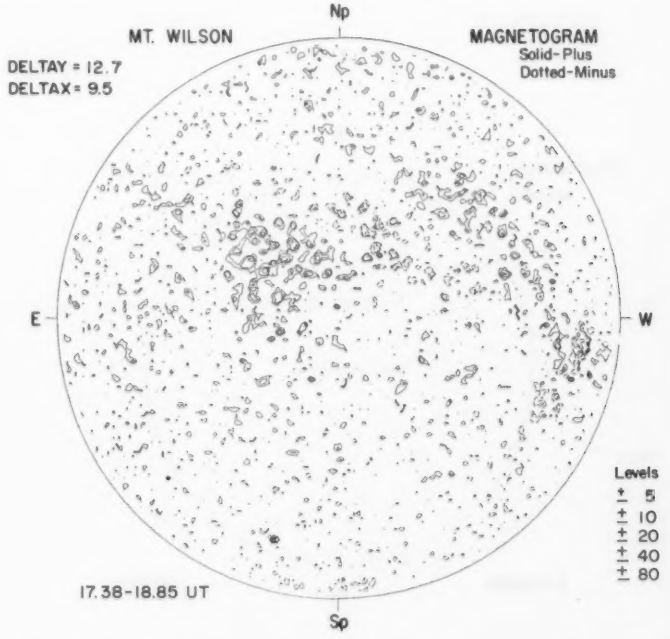
Ant. Temp. Unit 100° K

DECEMBER 21, 1975 (P = 7.72, B_0 = -1.63, L_0 = 293.51)

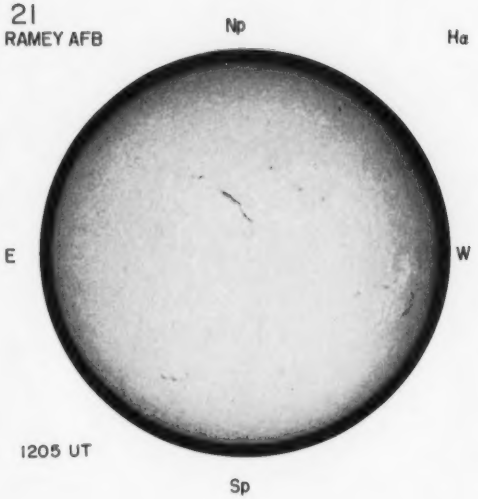




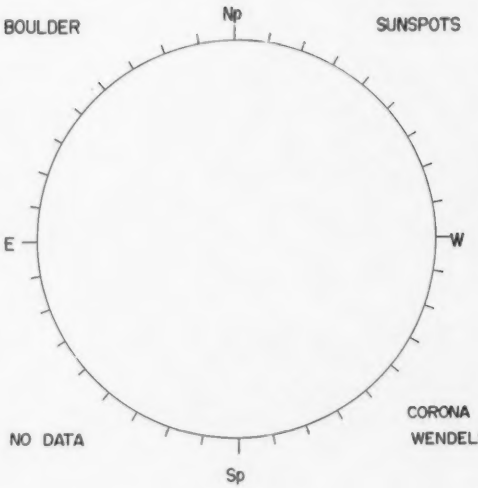




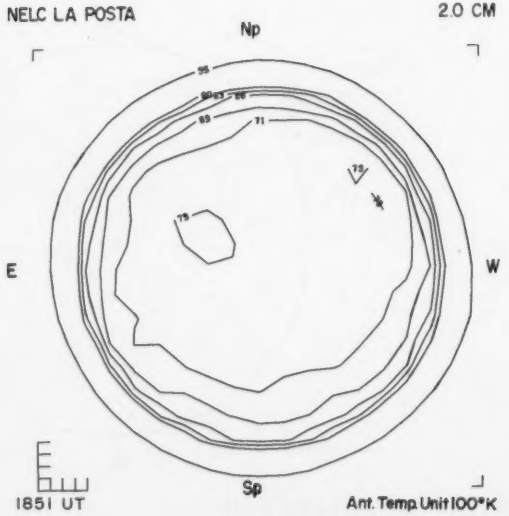
21
RAMEY AFB



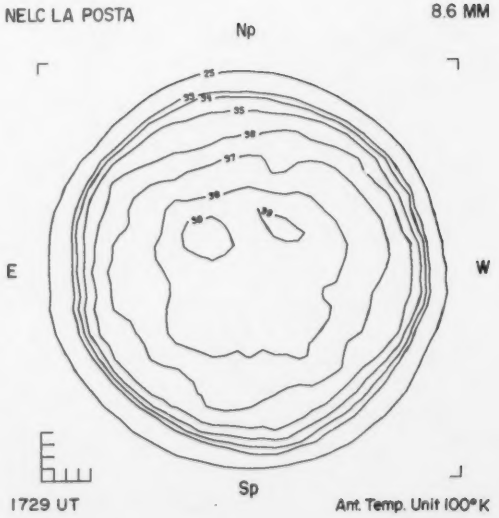
BOULDER



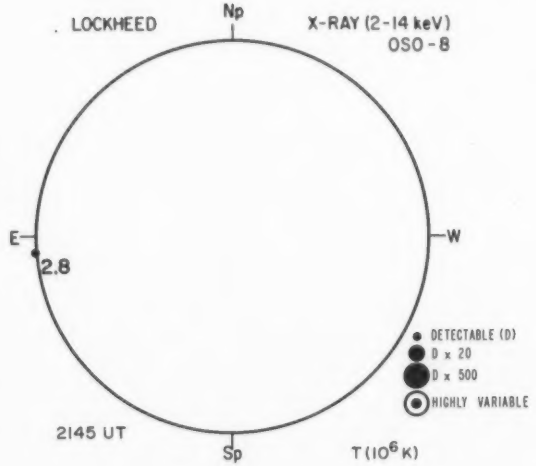
NELC LA POSTA

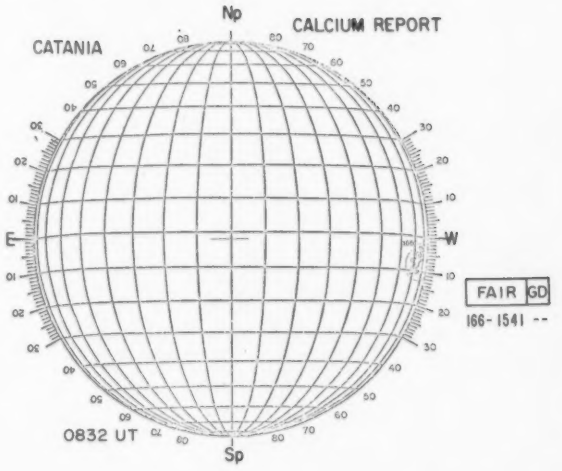


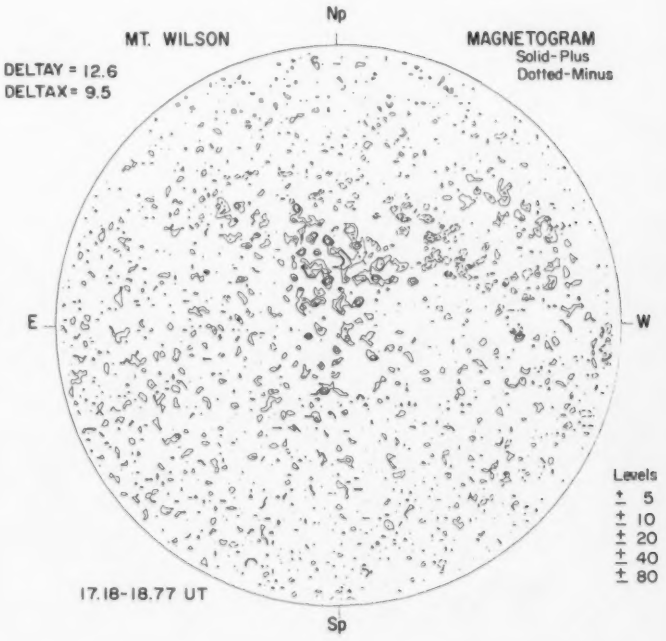
NELC LA POSTA



DECEMBER 22, 1975 (P = 7.25, B_0 = -1.76, L_0 = 280.34)

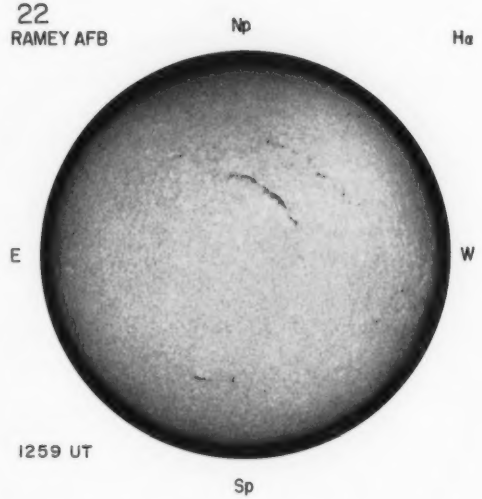






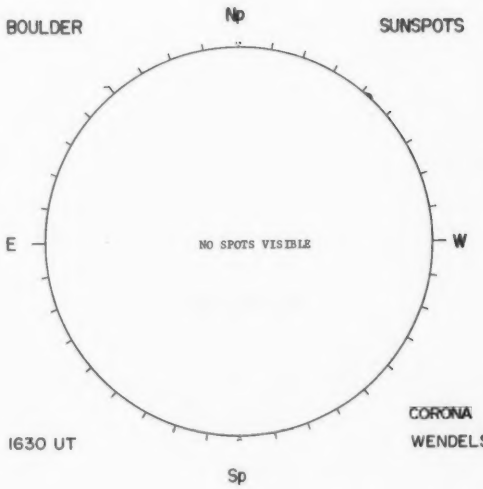
22

RAMEY AFB



1259 UT

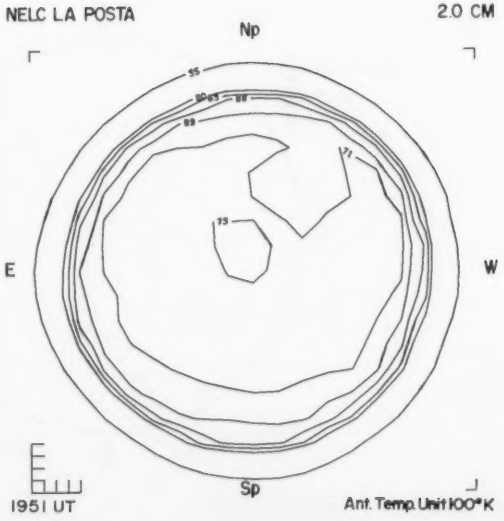
BOULDER



1630 UT

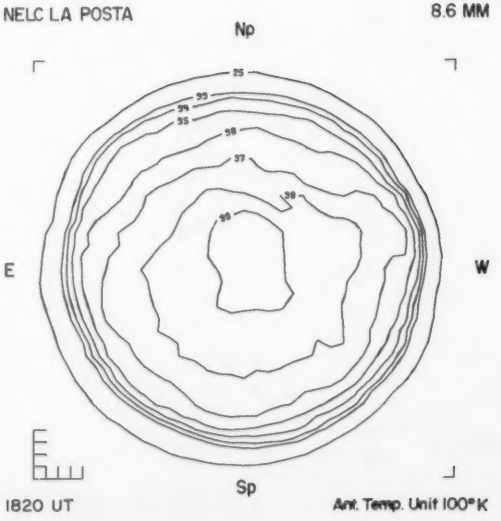
CORONA
WENDELSTEIN

NELC LA POSTA



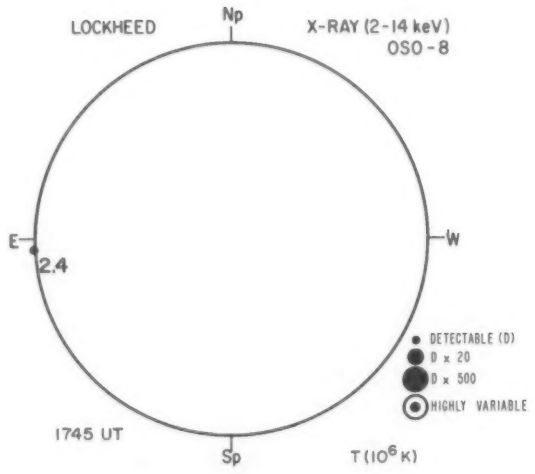
1951 UT

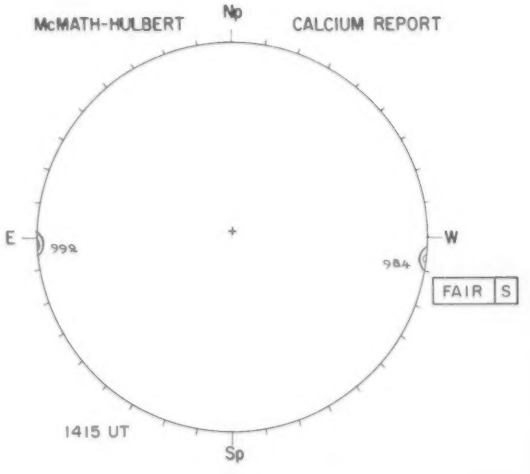
NELC LA POSTA

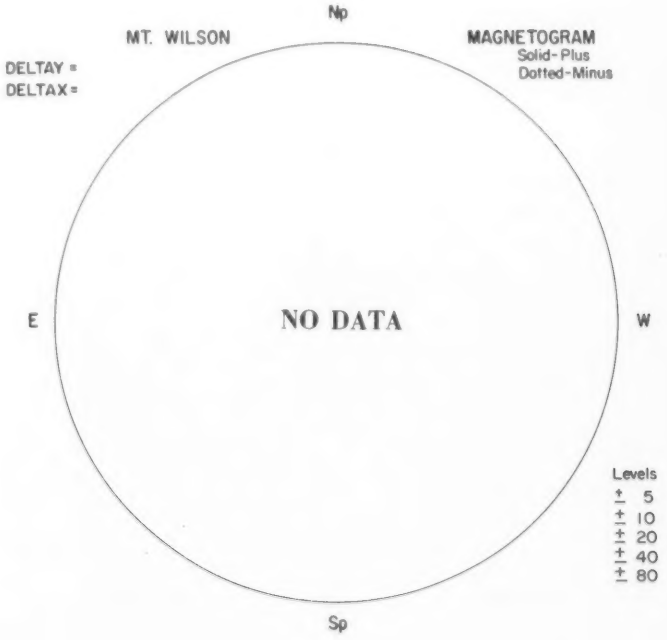


1820 UT

DECEMBER 23, 1975 (P = 6.78, B_o = -1.88, L_o = 267.17)

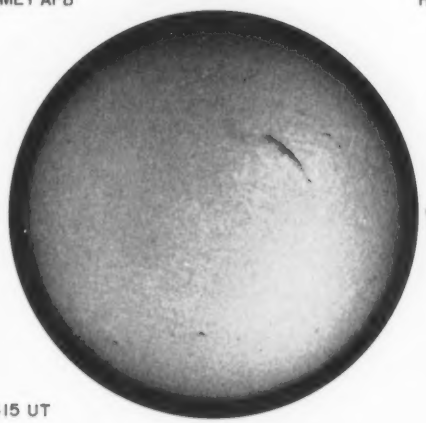






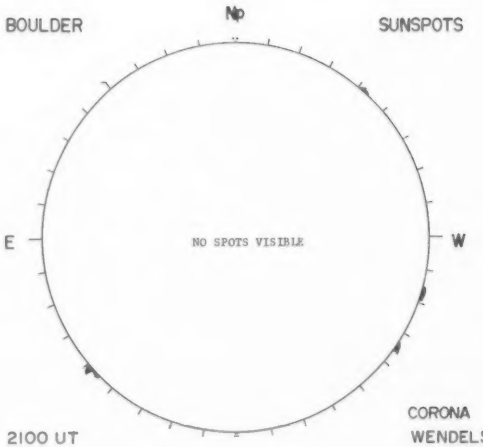
23

RAMEY AFB



1615 UT

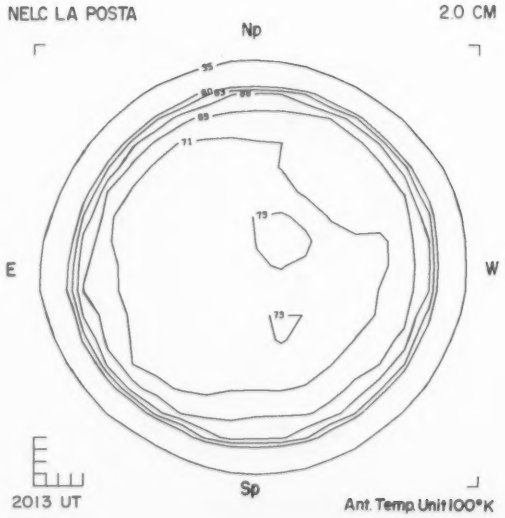
BOULDER



2100 UT

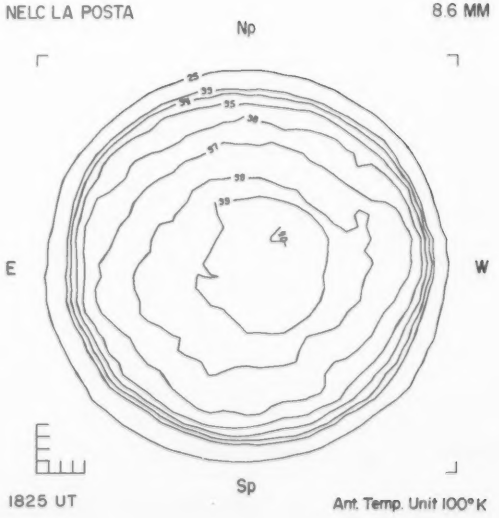
CORONA
WENDELSTEIN

NELC LA POSTA



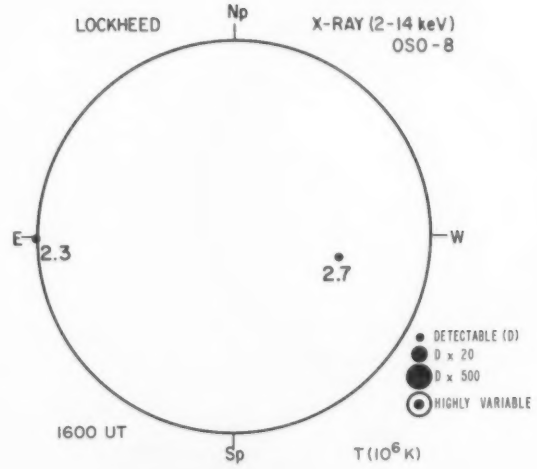
2013 UT

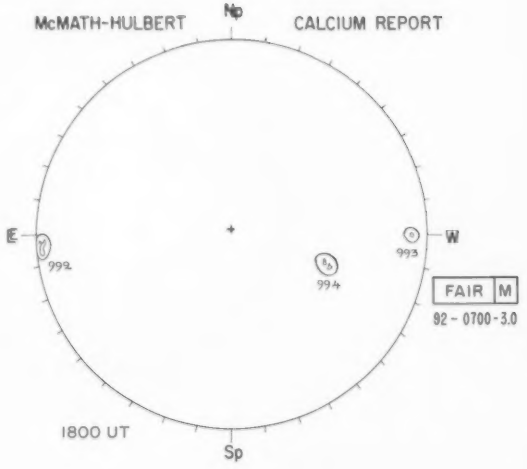
NELC LA POSTA

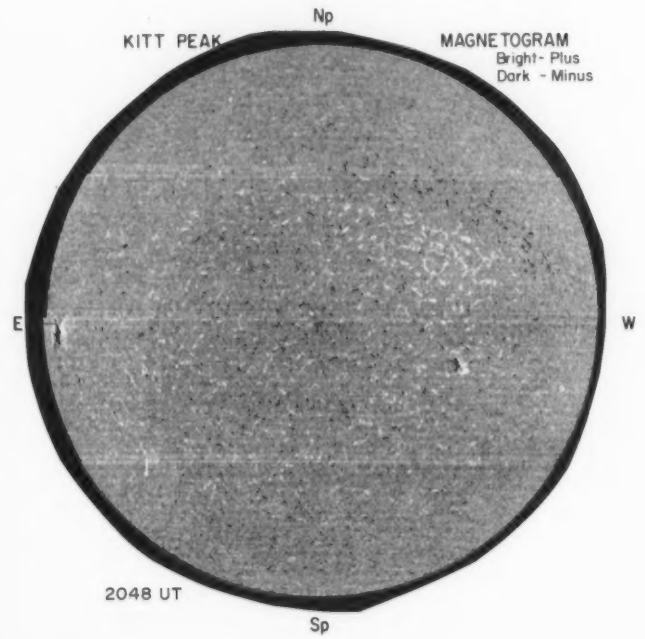


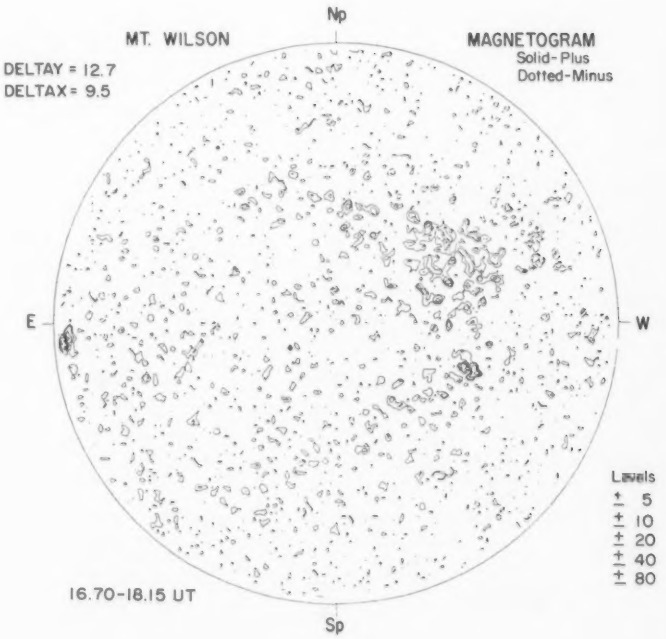
1825 UT

DECEMBER 24, 1975 (P = 6.30, B_o = -2.01, L_o = 253.99)



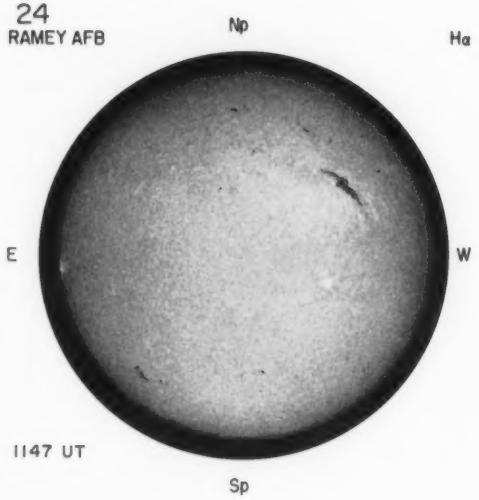






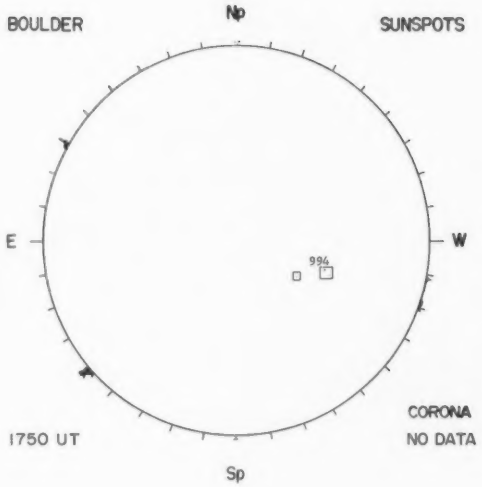
24

RAMEY AFB



1147 UT

BOULDER

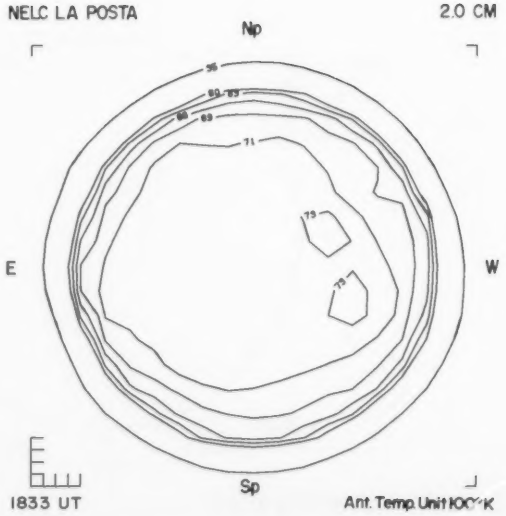


1750 UT

CORONA

NO DATA

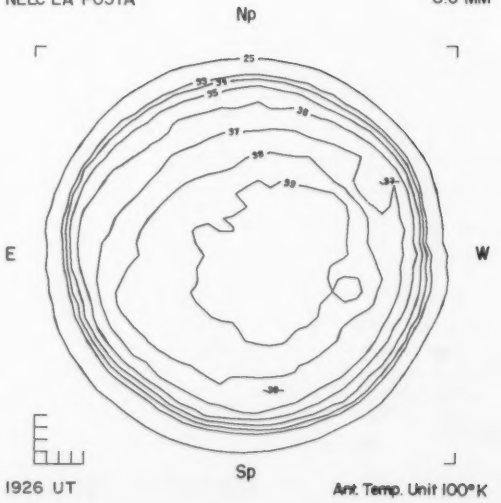
NELC LA POSTA



1833 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

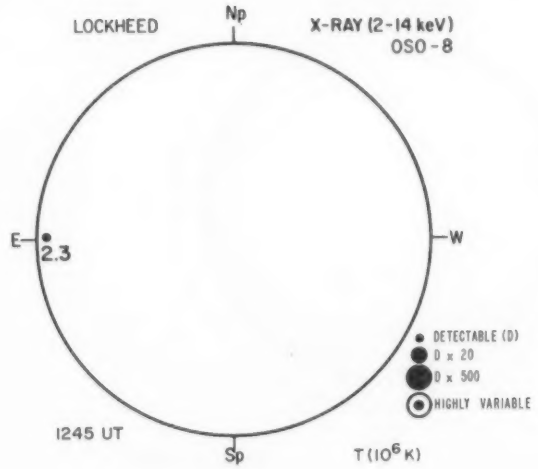


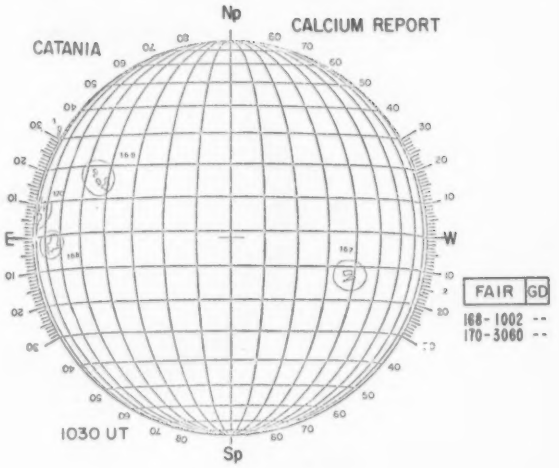
1926 UT

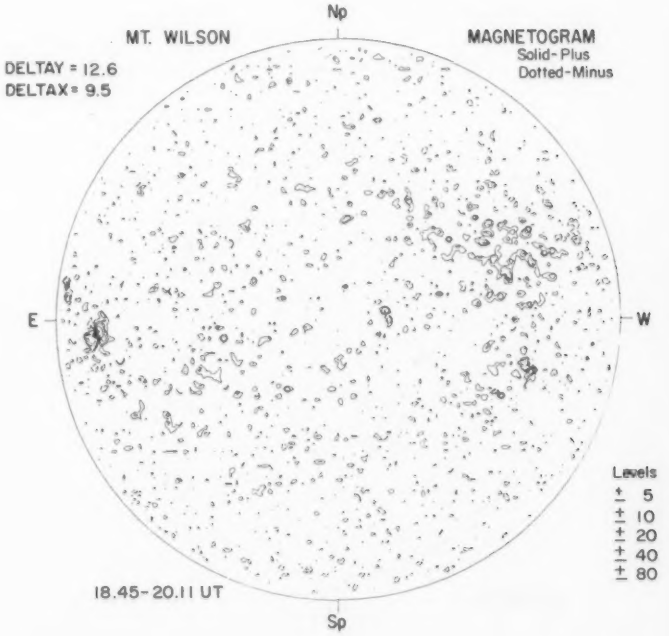
Ant. Temp. Unit 100°K

75
Dec 75

DECEMBER 25, 1975 (P = 5.82, B_0 = -2.13, L_0 = 240.82)

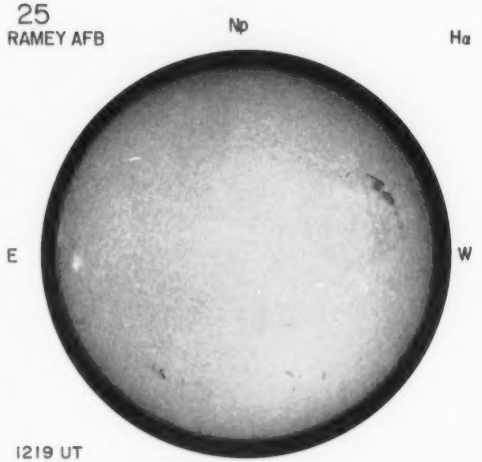






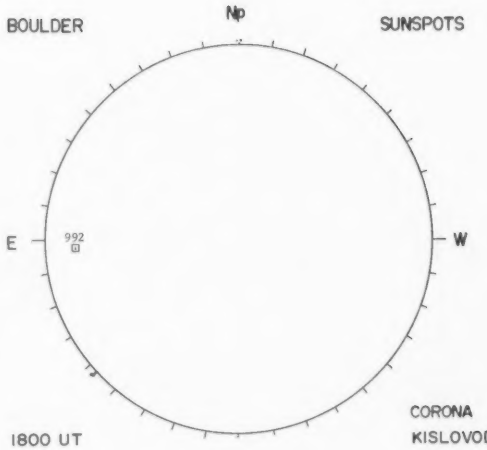
25

RAMEY AFB



1219 UT

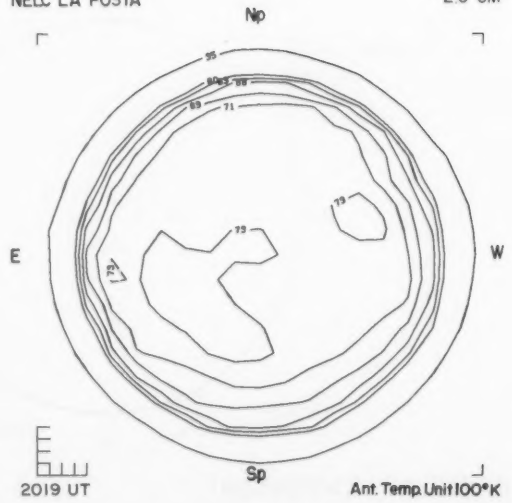
BOULDER



1800 UT

CORONA
KISLOVODSK

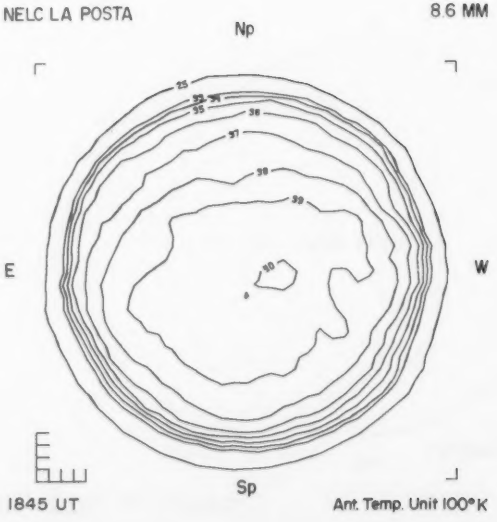
NELC LA POSTA



2019 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

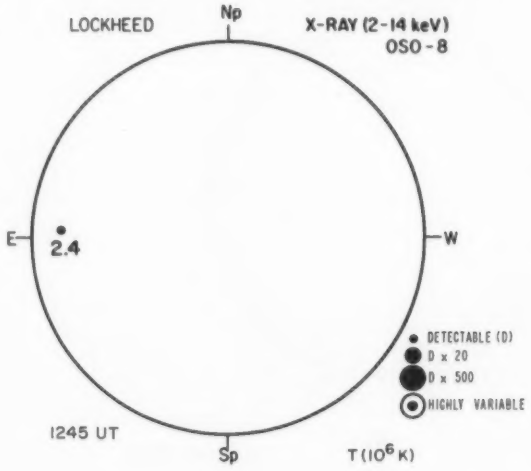


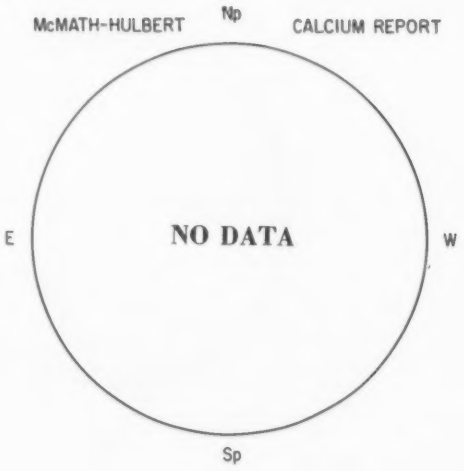
1845 UT

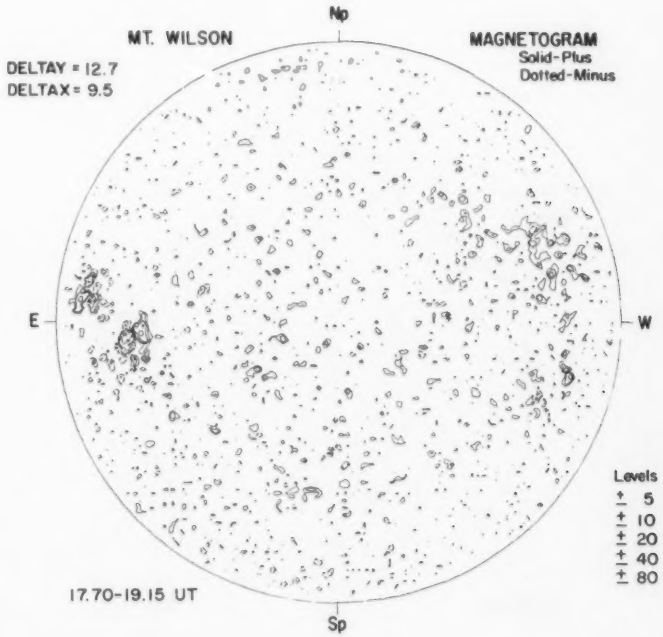
Ant. Temp. Unit 100°K

77
Dec 75

DECEMBER 26, 1975 (P = 5.34, B_o = -2.25, L_o = 227.65)

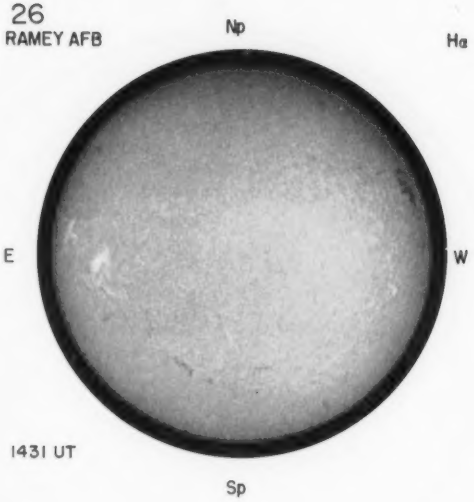






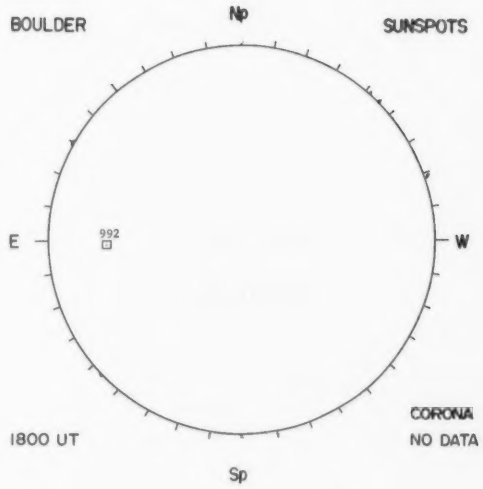
26

RAMEY AFB



1431 UT

BOULDER

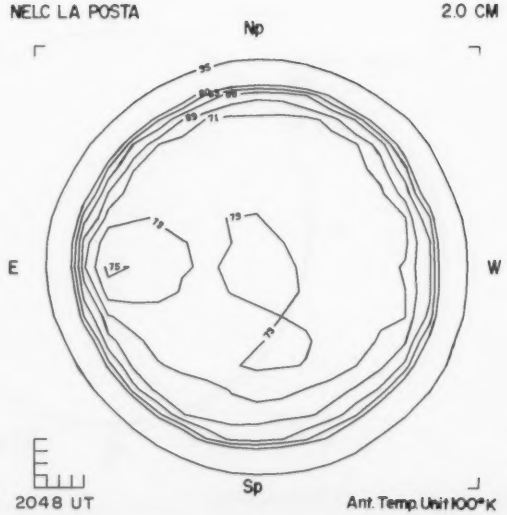


1800 UT

CORONA
NO DATA

NELC LA POSTA

2.0 CM

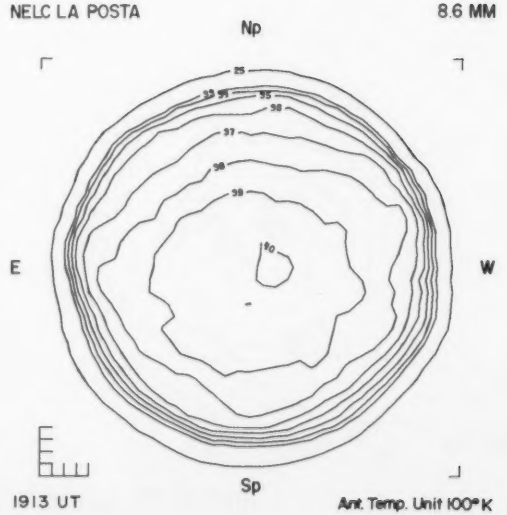


2048 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

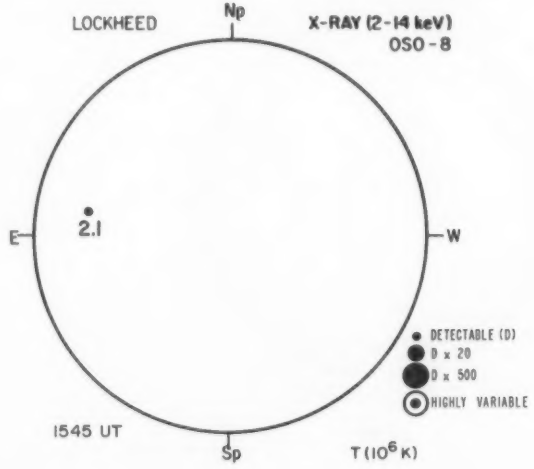
8.6 MM

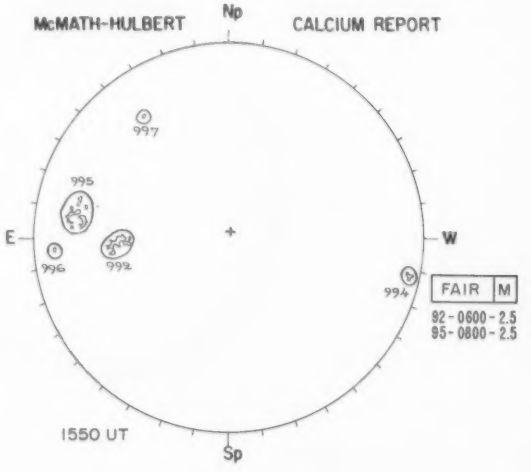


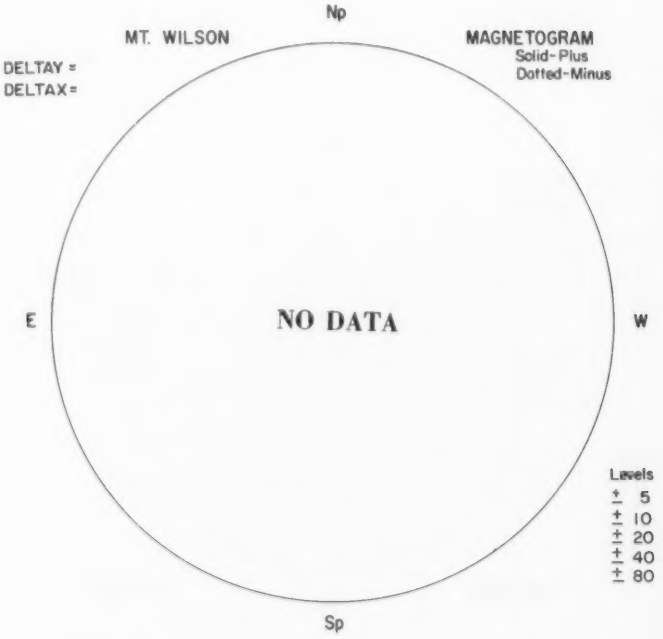
1913 UT

Ant. Temp. Unit 100°K

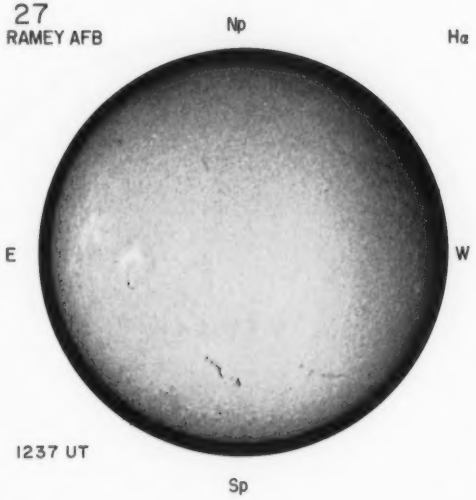
DECEMBER 27, 1975 (P = 4.86, B_o = -2.37, L_o = 214.48)





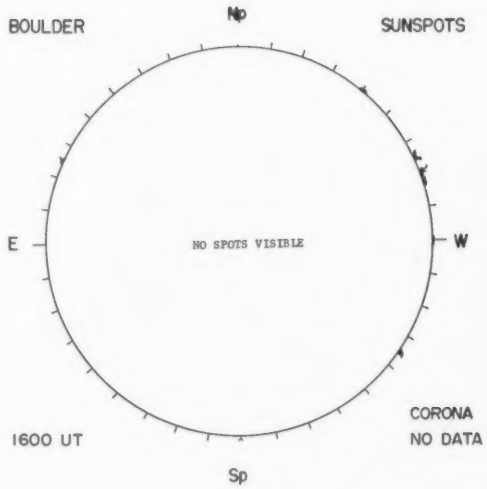


27
RAMEY AFB



1237 UT

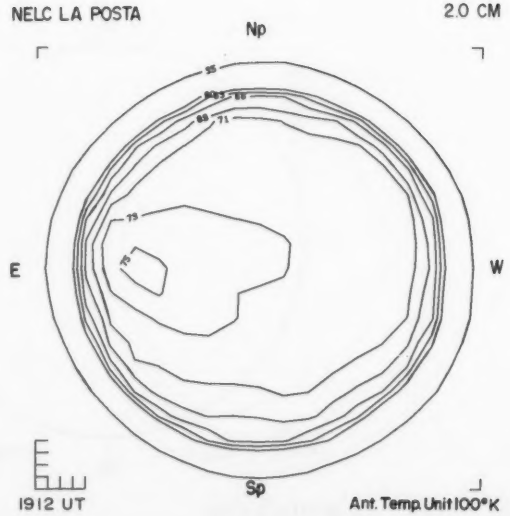
BOULDER



1600 UT

CORONA
NO DATA

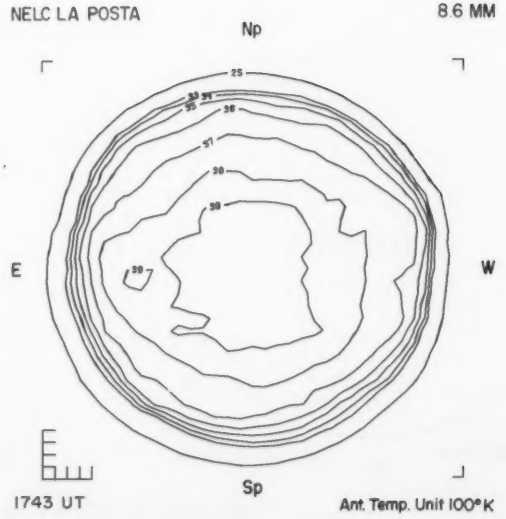
NELC LA POSTA



1912 UT

Ant. Temp. Unit 100°K

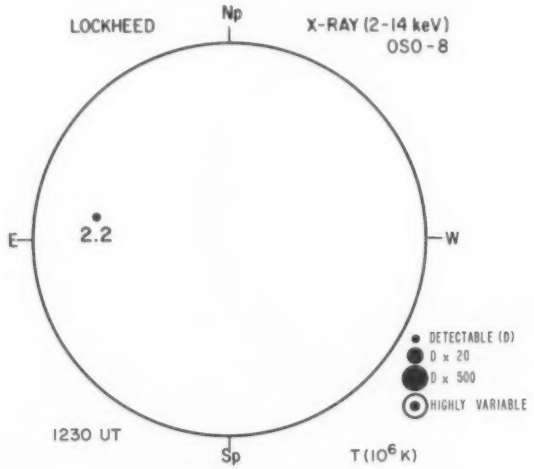
NELC LA POSTA

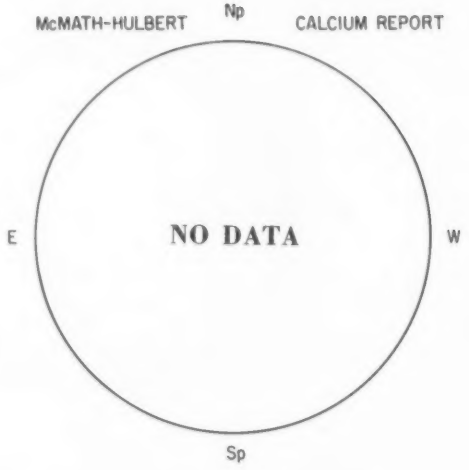


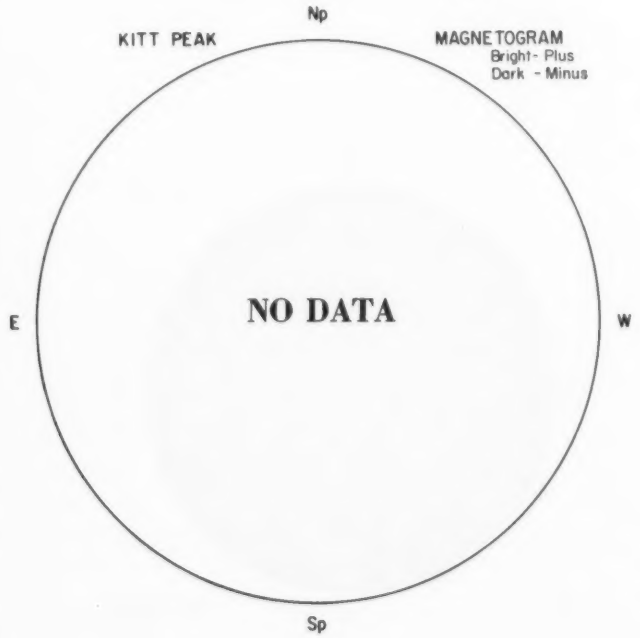
1743 UT

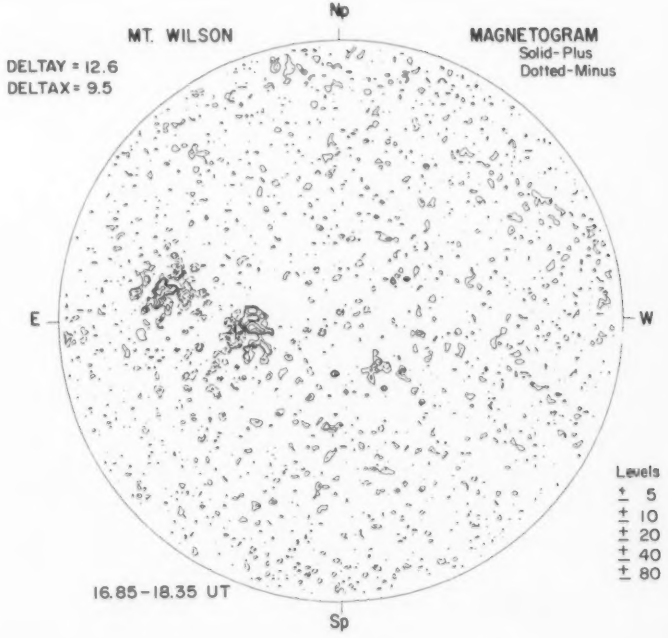
Ant. Temp. Unit 100°K

DECEMBER 28, 1975 (P = 4.38, B_0 = -2.50, L_0 = 201.31)

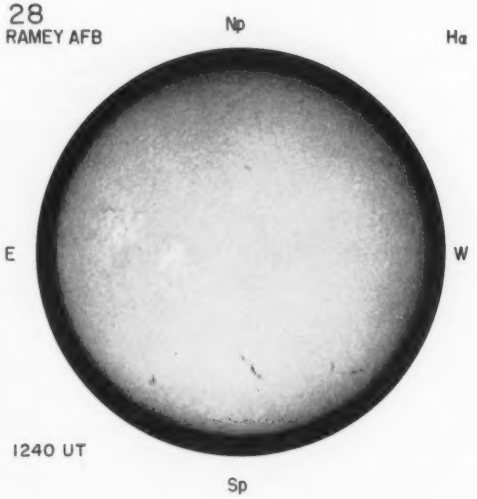






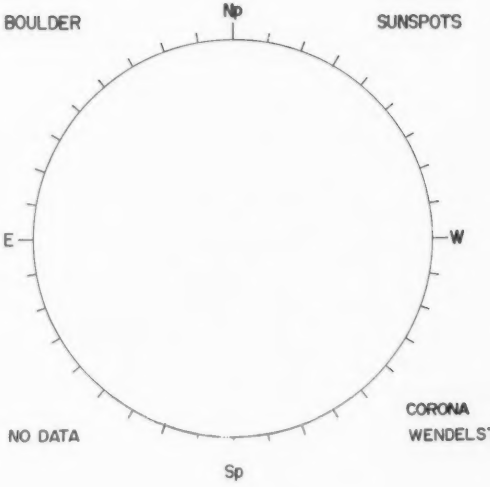


28
RAMEY AFB



1240 UT

BOULDER

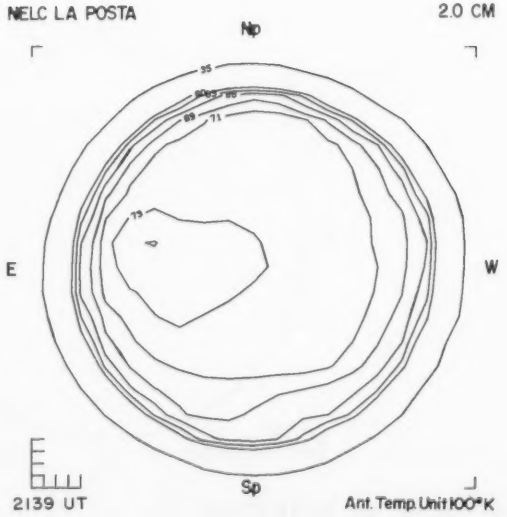


SUNSPOTS

NO DATA

CORONA
WENDELSTEIN

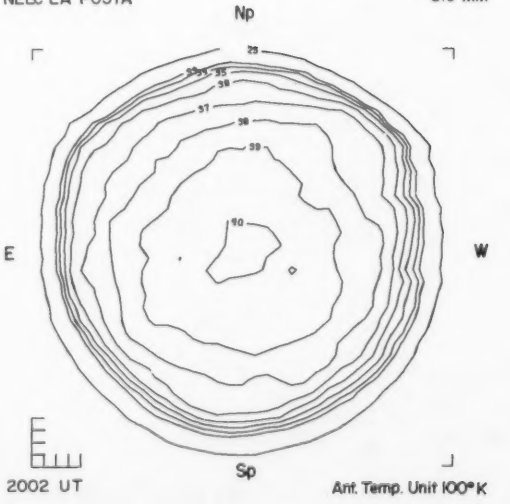
NELC LA POSTA 2.0 CM



2139 UT

Ant. Temp. Unit 100°K

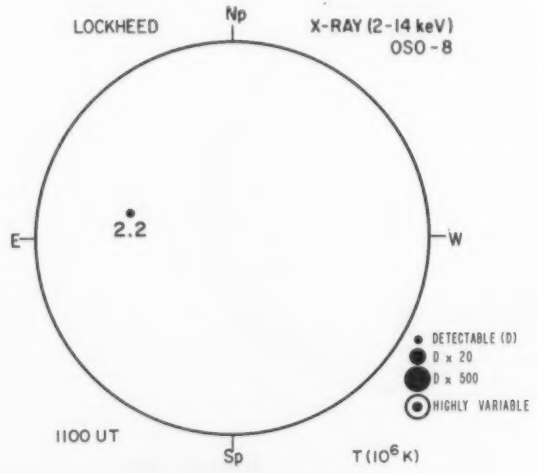
NELC LA POSTA 8.6 MM

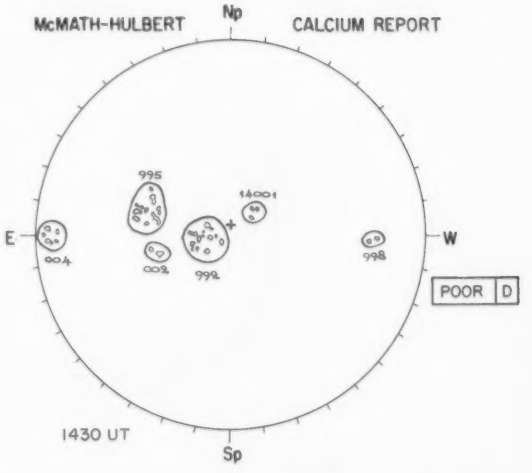


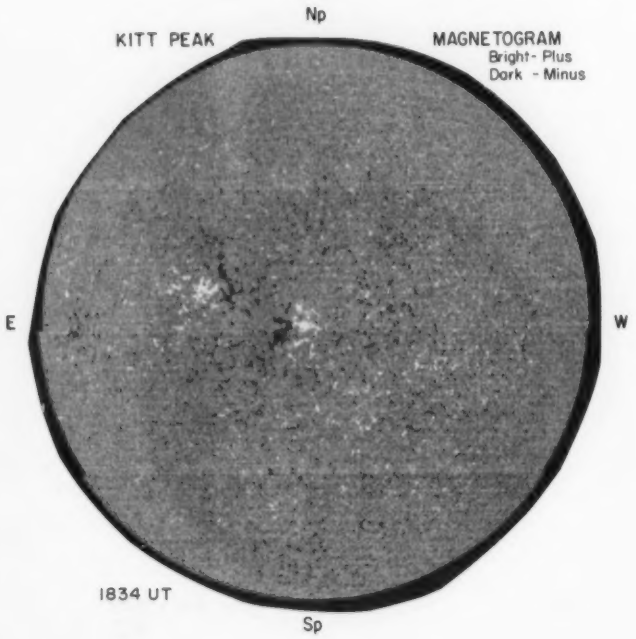
2002 UT

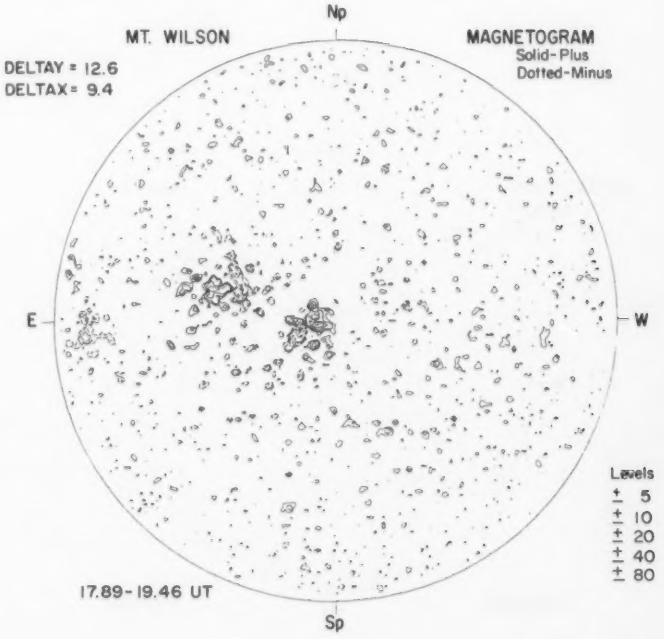
Ant. Temp. Unit 100°K

DECEMBER 29, 1975 (P = 3.90, B_0 = -2.62, L_0 = 188.13)









29

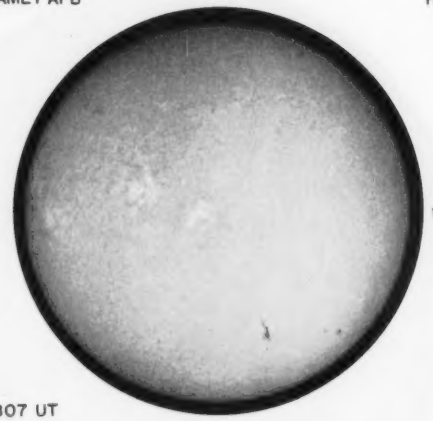
RAMEY AFB

Np

Hα

E

W



1807 UT

Sp

BOULDER

Np

SUNSPOTS

E

NO SPOTS VISIBLE

W

1715 UT

CORONA
KISLOVODSK

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E

CALIBRATION

W

1947 UT

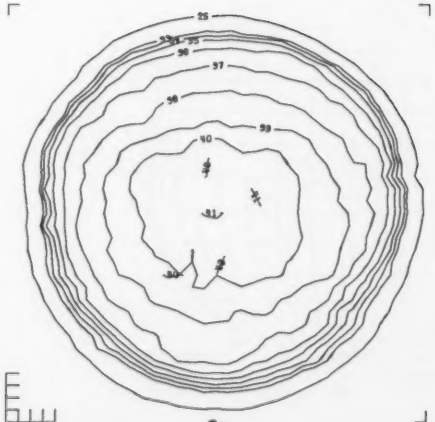
Sp

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM



E

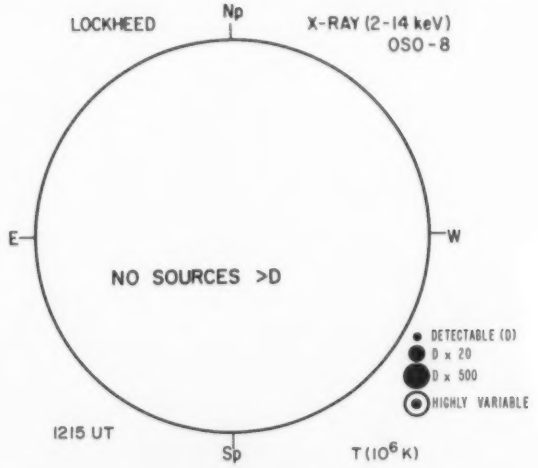
W

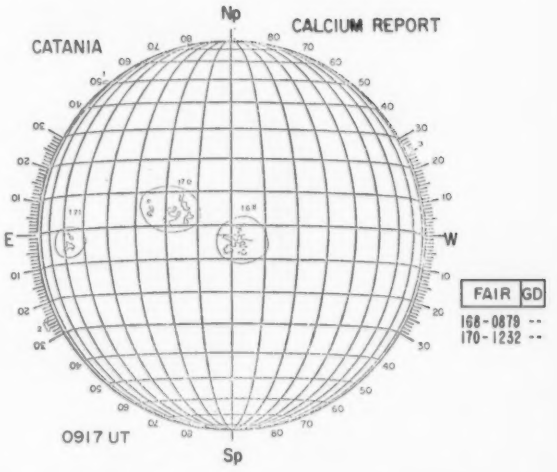
1812 UT

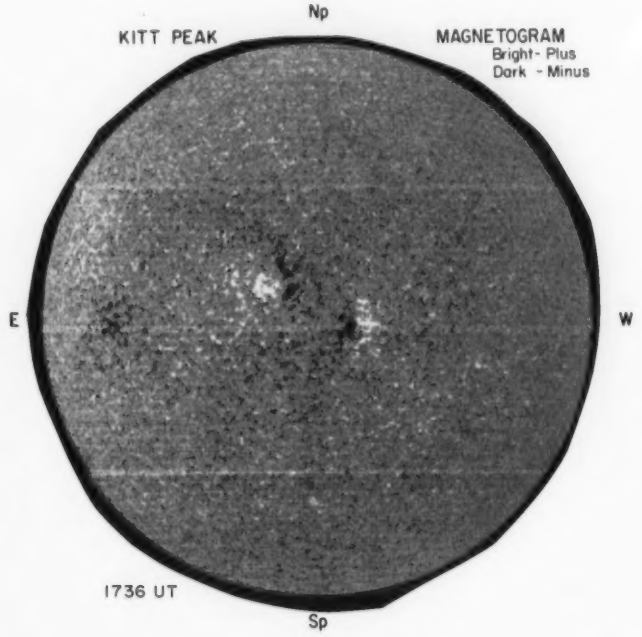
Sp

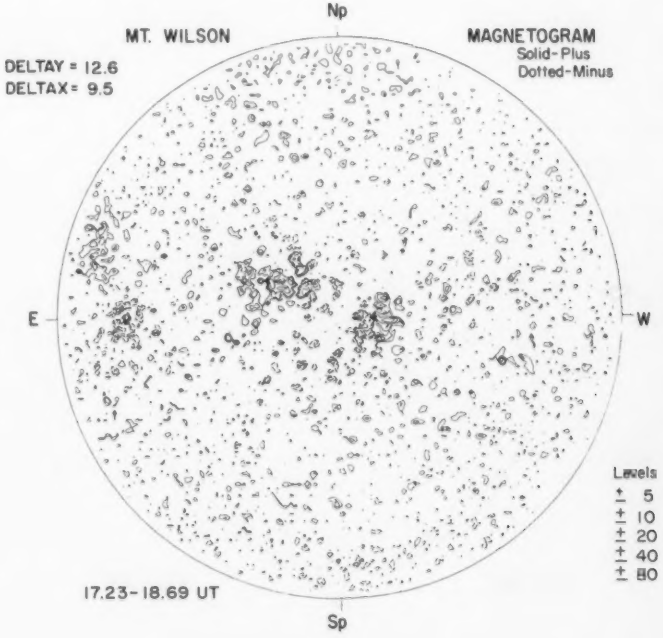
Ant. Temp. Unit 100°K

DECEMBER 30, 1975 (P = 3.41, B_0 = -2.74 L_0 = 174.96)

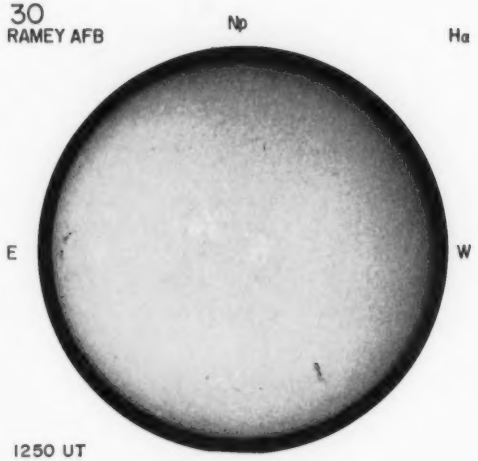






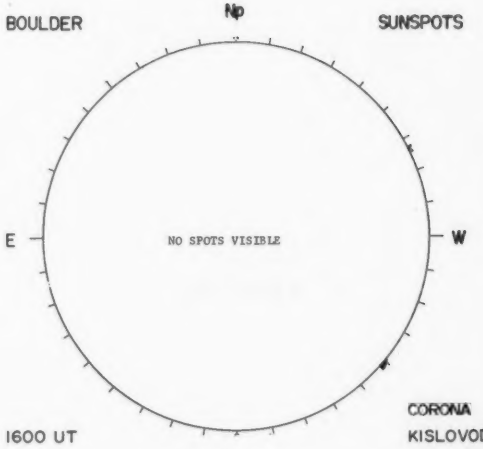


30
RAMEY AFB



1250 UT

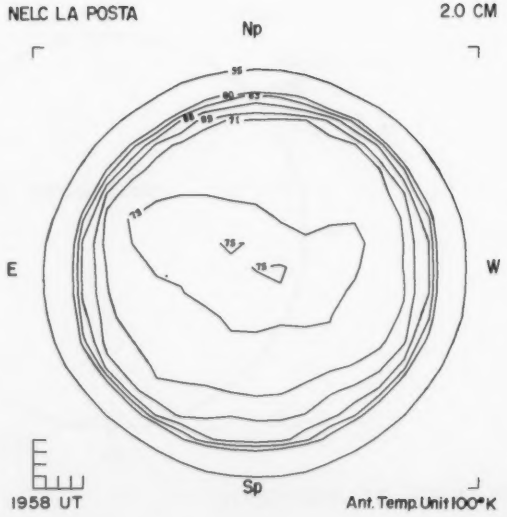
BOULDER



1600 UT

CORONA
KISLOVODSK
NO DATA 30°, 95°

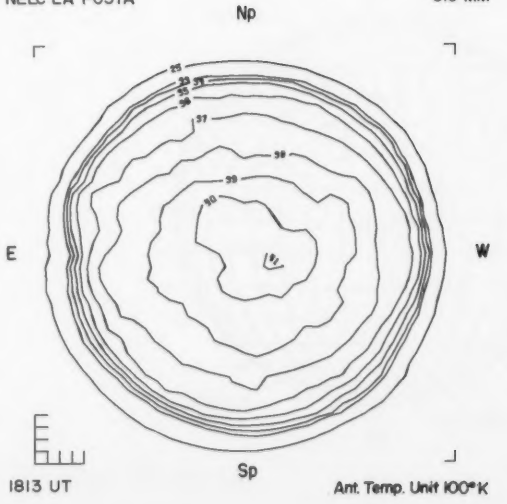
NELC LA POSTA



1958 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

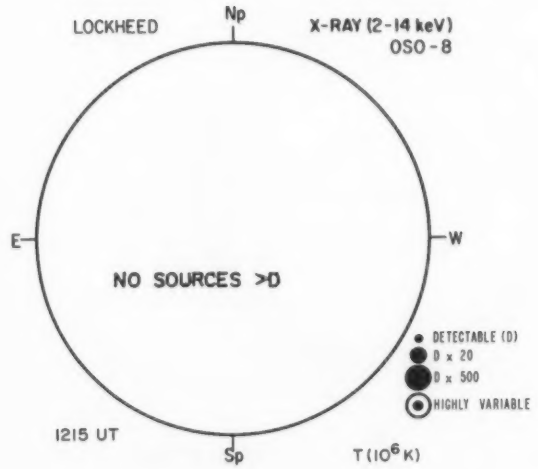


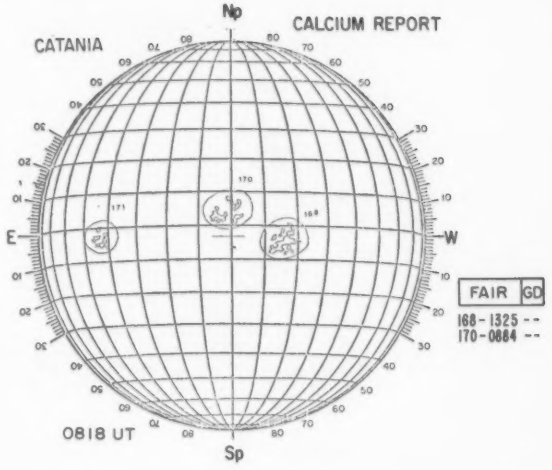
1813 UT

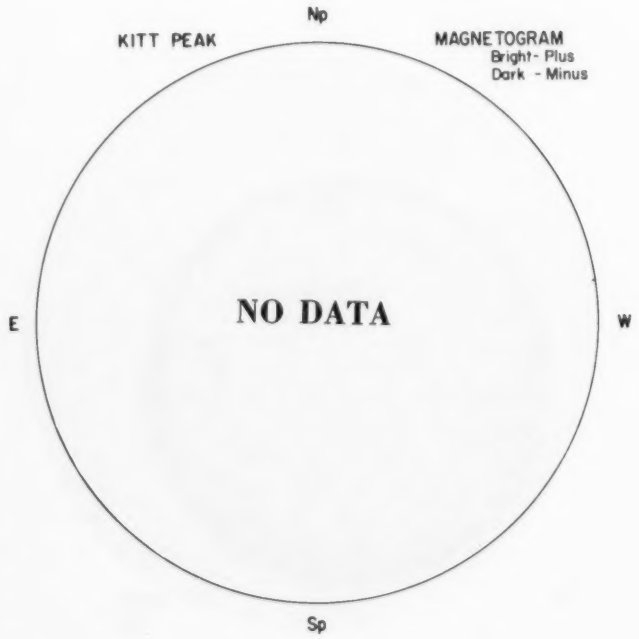
Ant. Temp. Unit 100°K

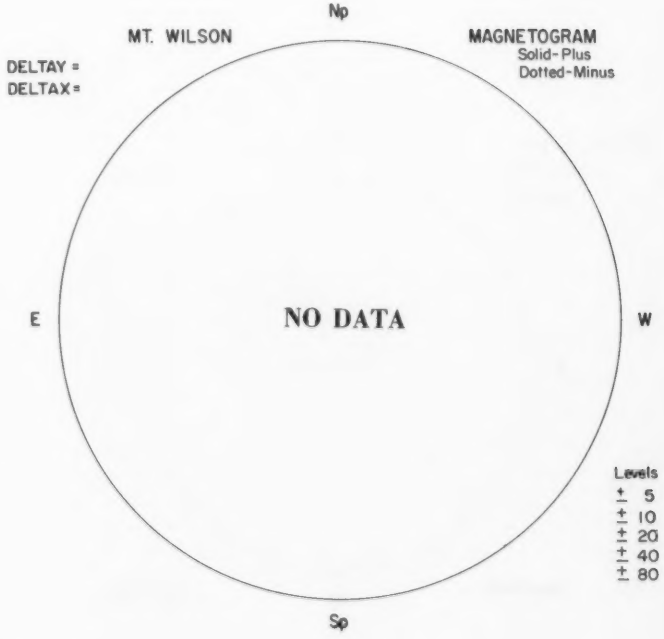
87
Dec 75

DECEMBER 31, 1975 (P = 2.93, B_0 = -2.85, L_0 = 161.79)

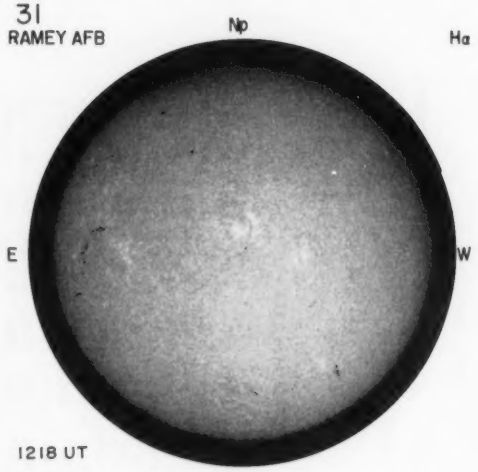


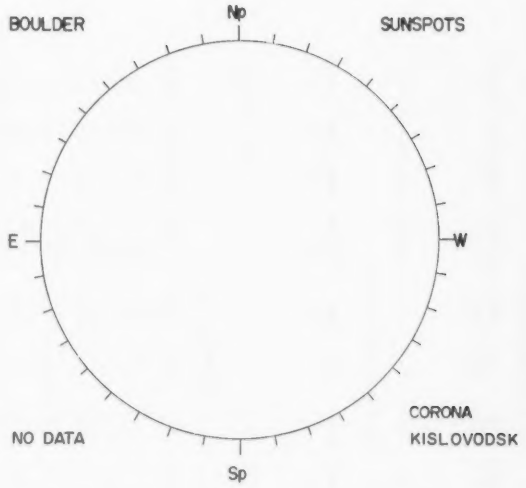






31
RAMEY AFB





NELC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

Sp

---- UT

Ant. Temp. Unit 100°K

NELC LA POSTA Np 8.6 MM

NO DATA

E WEATHER W

Sp

---- UT

Ant. Temp. Unit 100°K

REGIONS OF SOLAR ACTIVITY

DECEMBER 1975

MCMATH REGION 19643 CMP DATE 1.2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	11	29						19643	N3E E18	195	AF					

MCMATH REGION 13958 CMP DATE 2.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	11	28	13958	S01 E45	183	100	1.5									

MCMATH REGION 13959 CMP DATE 2.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	11	28	13959	N24 E52	176	100	1.5									

MCMATH REGION 13969 CMP DATE 2.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	4	13969	N39 W24	172	100	1.5									

MCMATH REGION 13960 CMP DATE 3.5 RETURN OF REGION 13922 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	11	29	13960	S09 E65	163	800	2.0									
75	12	1	13960	S10 E22	165	400	1.5									
75	12	2	13960	S10 E09	162	400	1.0									
75	12	3	13960	S10 W01	163	300	1.0									
75	12	4	13960	S10 W14	162	300	1.0									
75	12	5	13960	S10 W26	161	300	1.0									
75	12	6	13960	S10 W42	163	300	1.0									
75	12	7	13960	S12 W53	162	200	1.0									

MCMATH REGION 13967 CMP DATE 4.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	2	13967	S26 E18	153	100	1.0									
75	12	3	13967	S26 E10	152	100	1.0									

MCMATH REGION 13964 CMP DATE 4.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	1	13964	N06 E42	145	500	2.5	19645	N06 E42	144	(BF)	3	H	30	8	BXO
75	12	2	13964	N05 E25	146	1400	3.0	19646	N00 E22	152	(A)	1				
75	12							19647	N05 E24	150	(BP)	3	B	20	2	CSO
75	12							19645	N06 E30	144	(BP)	4	B	60	6	DSO
75	12	3	13964	N06 E15	147	1500	3.0	19647	N05 E10	151	(BP	2	B	10	5	BXO
75	12							19645	N06 E16	145	(B)	4	B	70	14	DAO
75	12	4	13964	N06 E02	146	1100	3.0	19647	N04 W05	151	(B)	2	B	10	5	BXO
75	12							19645	N05 E01	145	(BP)	4	B	70	24	DAI
75	12	5	13964	N06 W13	148	1300	3.0	19645	N05 W12	146	(BP)	4	R	80	23	DAI
75	12	6	13964	N06 W27	149	1500	3.0	19645	N05 W27	148	(BP)	4	B	160	7	DSI
75	12	7	13964	N06 W38	147	1600	3.0	19645	N05 W41	148	(BP)	4	B	60	8	CSI
75	12	8	13964	N06 W52	147	1800	3.0	19645	N05 W56	149	(BP)	3	B	30	8	CSO
75	12	9						19645	N06 W72	154	(AP)	2	B	10	1	AXX
75	12	10	13964	N06 W78	148	1400	2.5	19645	N06 W85	153	AP					

REGIONS OF SOLAR ACTIVITY

DECEMBER 1975

MCMATH REGION 13973 CMP DATE 5.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	6	13973	N36 W16	137	100	1.5								

MCMATH REGION 13979 CMP DATE 7.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	10	13979	S16 W44	114	200	1.5								

MCMATH REGION 13966 CMP DATE 7.7

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	1	13966	S02 E80	107	800	1.5								
75	12	2	13966	S03 E65	106	900	1.5								
75	12	3	13966	S02 E54	108	800	1.5								
75	12	4	13966	S01 E41	107	600	2.0								
75	12	5	13966	S01 E28	107	800	2.5								
75	12	6	13966	S01 E13	108	700	2.5								
75	12	7	13966	S02 E02	107	500	2.5								
75	12	8	13966	S02 W14	109	600	2.5								
75	12	10	13966	S02 W41	111	700	2.5								
75	12	12	13966	S02 W63	110	500	2.0								
75	12	13	13966	S01 W85	112	200	1.0								

MCMATH REGION 13965 CMP DATE 8.1 RETURN OF REGION 13926 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	1	13965	N08 E86	101	500	1.0								
75	12	2	13965	N10 E70	101	1000	1.5								
75	12	3	13965	N10 E60	102	1000	1.5								
75	12	4	13965	N10 E45	103	700	1.5								
75	12	5	13965	N11 E34	101	700	1.5								
75	12	6	13965	N12 E19	102	500	2.0								
75	12	7	13965	N12 E07	102	500	2.0								
75	12	8	13965	N11 W07	102	400	1.5								
75	12	10	13965	N11 W32	102	500	1.5								
75	12	12	13965	N11 W60	101	400	1.0								
75	12	13	13965	N12 W75	102	400	1.0								

MCMATH REGION 13983 CMP DATE 8.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	12	13983	S25 W59	100	100	1.5								

MCMATH REGION 13975 CMP DATE 9.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	7	13975	N29 E19	90	200	1.0								

MCMATH REGION 13970 CMP DATE 10.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
75	12	4	13970	S13 E70	78	400	1.0								
75	12	5	13970	S13 E58	77	200	1.0								
75	12	6	13970	S13 E44	77	300	1.0								
75	12	7	13970	S13 E33	76	300	1.0								
75	12	8	13970	S12 E16	79	400	1.5								
75	12	10	13970	S12 W07	77	400	1.0								
75	12	12	13970	S12 W35	76	300	1.0								
75	12	13	13970	S12 W49	76	300	1.0								

REGIONS OF SOLAR ACTIVITY

DECEMBER 1975

MCMATH REGION 13976 CMP DATE 11.2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	7	13976	N08 E48	61	100	1.5									
75	12	9	13976	N06 E33	62	100	1.0									
75	12	10	13976	N07 E08	62	100	2.0									
75	12	12	13976	N07 W21	62	100	1.0									

MCMATH REGION 13974 CMP DATE 11.3 RETURN OF REGION 13933 ROTATION 5

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	6	13974	S16 E60	61	200	1.0									
75	12	7	13974	S15 E52	57	200	1.0									
75	12	8	13974	S16 E36	59	200	1.0									

MCMATH REGION 13981 CMP DATE 12.9

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	10	13981	S17 E30	40	100	1.5									

MCMATH REGION 13977 CMP DATE 13.1 RETURN OF REGION 13934 ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	7	13977	N08 E78	31	400	1.5									
75	12	8	13977	N07 E60	35	700	2.5									
75	12	10	13977	N07 E35	35	800	2.0									
75	12	12	13977	N07 E05	36	500	2.0									
75	12	13	13977	N07 W10	37	500	1.5									
75	12	14	13977	N07 W23	39	800	1.5									
75	12	16	13977	N07 W45	39	500	1.5									
75	12	17	13977	N07 W60	37	500	1.0									
75	12	18	13977	N07 W73	37	400	1.0									

MCMATH REGION 13989 CMP DATE 13.4

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	17	13989	N20 W55	32	100	1.5									
75	12	18	13989	N20 W68	32	100	1.0									

MCMATH REGION 13978 CMP DATE 14.8

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	8	13978	S09 E85	10	200	2.5									
75	12	10	13978	S09 E56	14	100	2.0									

MCMATH REGION 13986 CMP DATE 15.1

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	14	13986	S37 E05	11	200	1.0									

MCMATH REGION 13982 CMP DATE 16.3 RETURN OF REGION 13937* ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	10	13982	S06 E78	353	500	1.0									

REGIONS OF SOLAR ACTIVITY

DECEMBER 1975

MCMATH REGION 13982 (CONT) CMP DATE 16.3 RETURN OF REGION 13937* ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	10	13982	S06 E78	353	500	1.0									
75	12	12	13982	S07 E48	354	300	1.0									
75	12	13	13982	S08 E34	354	300	1.5									
75	12	14	13982	S07 E23	354	300	1.5									
75	12	16	13982	S07 W04	355	300	1.5									
75	12	17	13982	S07 W17	354	300	1.5									
75	12	18	13982	S07 W31	355	300	1.5									
75	12	19	13982	S07 W49	357	300	1.0									
75	12	21	13982	S08 W72	357	200	1.0									

MCMATH REGION 13985 CMP DATE 16.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	13	13985	N34 E40	348	100	1.5									
75	12	14	13985	N36 E28	349	100	1.5									

MCMATH REGION 13984 CMP DATE 17.3 RETURN OF REGION 13937* ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	12	13984	S06 E60	342	900	2.5									
75	12	13	13984	S07 E45	343	800	2.0									
75	12	14	13984	S07 E36	341	1400	2.5	19648	S08 E30	344	(BP)	2				
75	12	15						19648	S06 E20	344	(AF)	2	R	10	8	BXO
75	12	16	13984	S06 E08	343	900	2.5	19648	S07 E06	345	(AF)	2	B	10	6	AXX
75	12	17	13984	S06 W05	342	800	2.5	19648	S06 W07	344	(AF)	3	B	10	7	AXX
75	12	18	13984	S06 W18	342	800	2.5		S06 W22				B	10	2	AXX
75	12	19	13984	S07 W36	344	800	2.5									
75	12	21	13984	S07 W60	345	600	2.0									
75	12	23	13984	S07 W89	348	200	1.0									

MCMATH REGION 13988 CMP DATE 17.3

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	16	13988	N19 E08	343	200	1.0									

MCMATH REGION 13993 CMP DATE 19.8

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	24	13993	S01 W65	309	100	1.0									

MCMATH REGION 13987 CMP DATE 20.1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	14	13987	N10 E71	306	200	1.0									

MCMATH REGION 13994 CMP DATE 22.5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	24	13994	S10 W30	274	300	2.0	19649	S07 W28	273	BF)	2	B	20	2	HSX
75	12								S12 W18				B	0	1	AXX
75	12	27	13994	S11 W69	274	200	1.5									

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

REGIONS OF SOLAR ACTIVITY

DECEMBER 1975

MCMATH REGION 13998 CMP DATE 26.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	29	13998	S03 W46	226	200	1.0									

MCMATH REGION 14001 CMP DATE 29.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	29	14001	N04 W07	187	200	1.0									

MCMATH REGION 13992 CMP DATE 30.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	23	13992	S02 E89	170	300	1.5									
75	12	24	13992	S03 E76	168	700	3.0	19650	S04 E73	172	AP		B	20	1	HSX
75	12	25						19650	S04 E58	173	(AP)	3	B	10	3	AXX
75	12	26						19650	S04 E45	173	(AP)	1	B	0	1	AXX
75	12	27	13992	S03 E34	171	600	2.5									
75	12	29	13992	S04 E07	173	600	2.0									
76	1	03	13992	S04 W63		400	2.0									
76	1	04	13992	S05 W77		400	1.0									

MCMATH REGION 13997 CMP DATE 30.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	27	13997	N37 E34	171	100	1.0									

MCMATH REGION 14002 CMP DATE 31.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	29	14002	S07 E23	157	200	1.0									

MCMATH REGION 13995 CMP DATE 31.6 RETURN OF REGION 13964* ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
75	12	27	13995	N05 E51	154	800	2.5									
75	12	29	13995	N05 E26	154	800	2.0									
76	1	03	13995	N05 W45		600	2.0									
76	1	04	13995	N05 W58		500	2.0									
76	1	05	13995	N04 W70		400	2.0									

Note: Region 13966 is new plage that has developed near the location of region 13927 of the previous rotation.
No calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on December 9, 11, 15, 20, 22, 25, 26, 28, 30 and 31, 1975.
No sunspot observations were made at Mt. Wilson Observatory on December 12 and 27, 1975.

DAILY CALCIUM PLAGE INDEX

DECEMBER 1975

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
75	12	1	2.1	75	12	11	*	75	12	21	0.6
75	12	2	5.5	75	12	12	3.2	75	12	22	*
75	12	3	6.2	75	12	13	2.6	75	12	23	0.0
75	12	4	5.6	75	12	14	4.6	75	12	24	1.0
75	12	5	6.7	75	12	15	*	75	12	25	*
75	12	6	7.2	75	12	16	3.3	75	12	26	*
75	12	7	6.8	75	12	17	2.7	75	12	27	2.7
75	12	8	6.9	75	12	18	2.4	75	12	28	*
75	12	9	*	75	12	19	1.8	75	12	29	3.3
75	12	10	4.9	75	12	20	*	75	12	30	*
								75	12	31	*

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

DECEMBER 1975

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		
05	0746	0835	0754	1-	1						1		0747	13964
06	1111	1147	1117	1-	1			1					1117	13964

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-31	0000-2400 A32
01-12	0000-2400 A30
01	1400-1711 UM (17 kHz)
02	0000-2400 TN, 0230-0343 UM (10 kHz), 0812-1145 TM
03	0250-0515 UM (10 kHz)
04	0000-2400 A28, 0200-0500 UM (10 kHz), 0651-0751 UM (10 kHz)
06	0000-2400 A1, 0000-2400 A34, 0230-0302 UM (10 kHz), 1712-1730 TM
07	1053-1241 UM (17 kHz)
08	0230-0306 UM (10 kHz), 1404-1734 UM (17 kHz)
09	0000-2400 A1, 0252-0410 UM (10 kHz), 0520-0641 UM (10 kHz)
10	0214-0250 TM, 0452-0900 TM, 1355-1742 UM (17 kHz), 2136-2219 TM, 2145-2216 UM (10 kHz)
11	2136-2155 UM (17 kHz)
15	1355-1717 UM (17 kHz)
18	0000-2400 A1
21	1046-1600 TM
22	1231-1313 UM (17 kHz), 2050-2300 UM (10 kHz)
23	2145-2215 UM (10 kHz)
24	1302-1328 TM
26	2130-2237 UM (10 kHz)
27	1110-1420 UM (10 kHz), 1503-2315 UM (10 kHz)
28	1119-1635 UM (10 kHz)
29	1355-1730 UM (17 kHz)
31	0332-1350 TM

STATIONS REPORTING FOR DECEMBER 1975

AAVSO (A1, A4, A19, A21, A28, A29, A30, A31, A32, A33, A34, A35, A36, A37, A40) (SES) (A1, A26, A31) (SEA) (A31) (SWF)
DEBRE ZEIT (DE) (SPA)
HERMANUS (HS) (SEA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
MCMATH (MC) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SES, SPA)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

SID's BY McMATH REGION

DECEMBER 1975

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGION 64					1	1																									
X-RAY																															
UNKNOWN																															
NO FP																															

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1975

DEC 1975	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0917	MANI										
	0000	0721	CULG										
	0712	1522	DURN										
	1158	2106	SGMR										
	1400	2330	BOUL										
	1401	2340	HARV										
	2020	2400	CULG										
	2204	2400	MANI										
02	0000	0917	MANI										
	0000	0721	CULG										
	0713	0750	DURN										
	1159	2106	SGMR										
	1400	2330	BOUL										
	1402	2340	HARV										
	2021	2113	CULG										
	2124	2400	CULG										
	2204	2400	MANI										
03	0000	0917	MANI										
	0000	0721	CULG										
	0714	1520	DURN										
	1200	2106	SGMR										
	1400	2330	BOUL										
	1401	2340	HARV										
	2022	2400	CULG										
	2205	2400	MANI										
04	0000	0917	MANI										
	0000	0721	CULG										
	0724	1514	DURN										
	1202	2105	SGMR										
	1400	2330	BOUL										
	1401	2340	HARV										
	2023	2400	CULG										
	2205	2400	MANI										
05	0000	0917	MANI										
	0000	0722	CULG										
	0714	1514	DURN										
	1203	2105	SGMR										
	1400	2330	BOUL										
	1402	2340	HARV										
	2023	2400	CULG										
	2206	2400	MANI										
06	0000	0917	MANI										
	0000	0451	CULG										
	0509	0722	CULG										
	0714	0738	DURN										
	0805	1514	DURN	1018.3	1018.6	2	1018.3	1018.6	2				IIIG
			DURN				1118.5	1119.3	2				I
	1203	2105	SGMR										
	1400	2330	BOUL										
	1400	2340	HARV										
	2206	2400	MANI										
	2023	2400	CULG	2242	2243	1	2242	2243	1				IIIG
			CULG	2318	2319	1	2318	2319	1				IIIG
			CULG				2343	2345	1				IIIG
07	0000	0722	CULG	0019	0022	1	0019	0022	1				IIIG
			CULG	0111	0126	1	0111	0126	1	0111	0126	1	IIIGG
			CULG	0117	0118	2	0117	0118	2				IIIG
			CULG	0136	0137	2	0136	0137	2	0136	0137	2	IIIG,V
	0000	0917	MANI							0137.6	0138.5	0	III
			CULG	0141	0155	1	0141	0155	1				IIIGG
			CULG	0408	0409	1	0408	0409	1				IIIG
			CULG	0605	0608	1	0605	0608	1	0605	0608	1	IIIG
			MANI							0607.2	0608.4	3	IIIG
			CULG				0609	0610	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS
DECEMBER 1975

DEC 1975	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
07	0719	1514	DURN										
	1204	2105	SGMR										
	1400	2330	BOUL				1616.6	1617.2	1	1616.6	1617.2	1	III
	1402	2340	HARV				1616	1617	3	1616	1617	3	IIIG
			BOUL				1723.9	1724.3	1	1723.9	1724.3	1	III
			HARV				1724		2	1724		2	IIIG
	2025	2400	CULG										
	2208	2400	MANI										
08	0000	0815	MANI										
	0000	0725	CULG										
	0719	1514	DURN										
	1205	2104	SGMR										
	1400	2330	BOUL				1424	1445	1				IS
			BOUL				1445	1728	2	1445	1728	2	IV
	1401	2340	HARV				1707	1708	2	1707	1708	2	IIIG
	2208	2400	MANI										
	2025	2400	CULG				2319.5		1				IIIB,U
09	0000	0725	CULG										
	0000	0917	MANI										
	0720	1348	DURN										
	1206	2105	SGMR										
	1400	2330	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2208	2400	MANI										
10	0000	0917	MANI										
	0000	0725	CULG										
	1207	2105	SGMR										
	1400	2330	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2209	2400	MANI										
11	0000	0917	MANI										
	0000	0725	CULG										
	0723	1516	DURN										
	1208	2105	SGMR										
	1400	2300	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2209	2400	MANI										
12	0000	0918	MANI										
	0000	0725	CULG										
	0724	1516	DURN										
	1208	2105	SGMR										
	1400	2300	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2210	2400	MANI										
13	0000	0918	MANI										
	0000	0725	CULG										
	0725	0746	DURN										
	0854	1516	DURN										
	1209	2105	SGMR										
	1400	2300	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2211	2400	MANI										
14	0000	0725	CULG				0459						IIIB,W
	0000	0918	MANI							0503.4	0503.6	2	III
			CULG				0503	0504	3	0503	0504	1	IIIB
			CULG				0543	0545	1				IIIG
	0727	1516	DURN										
	1210	2105	SGMR										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1975

DEC 1975	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
14	1400	2300	BOUL										
	1401	2340	HARV										
	2025	2400	CULG										
	2211	2400	MANI										
15	0000	0918	MANI										
	0000	0725	CULG										
	0727	1516	DURN										
	1211	2105	SGMR										
	1400	2200	BOUL										
	1419	2340	HARV										
	2025	2400	CULG										
	2212	2400	MANI										
16	0000	0918	MANI										
	0000	0725	CULG										
	0728	1525	DURN										
	1212	2105	SGMR										
	1400	2400	BOUL										
	1417	2340	HARV										
	2025	2400	CULG										
	2212	2400	MANI										
17	0000	0918	MANI										
	0000	0725	CULG										
	0729	1520	DURN										
	1213	2105	SGMR										
	1400	2400	BOUL										
	1417	2340	HARV										
	2025	2400	CULG										
	2213	2400	MANI										
18	0000	0918	MANI										
	0000	0725	CULG										
	0731	1230	DURN										
	1226	2106	SGMR										
	1400	2400	BOUL										
	1416	2340	HARV										
	2025	2400	CULG										
	2213	2400	MANI										
19	0000	0918	MANI										
	0000	0725	CULG										
	0731	1524	DURN										
	1214	2107	SGMR										
	1400	2400	BOUL										
	1418	2340	HARV										
	2025	2400	CULG										
	2213	2400	MANI										
20	0000	0918	MANI										
	0000	0725	CULG										
	0015	2400	MANI										
	0732	0814	DURN										
	0822	1139	DURN										
	1214	2107	SGMR										
	1400	2400	BOUL										
	1418	2340	HARV										
	2025	2400	CULG										
21	0000	0913	MANI										
	0000	0725	CULG				0034.5	0035	1				IIIG
	1219	2107	SGMR										
	1400	2400	BOUL										
	1417	2340	HARV										
	2025	2400	CULG										
	2214	2400	MANI										
22	0000	0918	MANI										
	0000	0725	CULG										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1975

DEC 1975	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
22	0733	1524	DURN										
	1305	2005	SGMR										
	1400	2300	BOUL										
	1418	2340	HARV										
	2031	2400	CULG										
	2214	2400	MANI										
23	0000	0918	MANI										
	0000	0731	CULG										
	0734	1517	DURN										
	1216	2109	SGMR										
	1400	2400	BOUL										
	1417	2340	HARV										
	2031	2400	CULG										
	2214	2400	MANI										
24	0000	0918	MANI										
	0000	0731	CULG										
	0734	1517	DURN										
	1216	2109	SGMR										
	1400	2400	BOUL										
	1418	2340	HARV										
	2031	2400	CULG										
	2215	2400	MANI										
25	0000	0918	MANI										
	0000	0732	CULG										
	0734	1517	DURN										
	1216	2110	SGMR										
	1400	2400	BOUL										
	1418	2345	HARV										
	2031	2400	CULG										
	2215	2400	MANI										
26	0000	0918	MANI										
	0000	0732	CULG										
	0735	1520	DURN										
	1216	2110	SGMR										
	1400	2400	BOUL										
	1417	2345	HARV										
	2032	2400	CULG										
	2216	2400	MANI										
27	0000	0918	MANI										
	0000	0732	CULG										
	0735	0822	DURN										
	0832	1520	DURN										
	1218	2111	SGMR										
	1400	2400	BOUL										
	1418	2345	HARV										
	2033	2400	CULG										
	2216	2400	MANI										
28	0000	0918	MANI										
	0000	0733	CULG										
	0734	1139	DURN										
	1218	2112	SGMR										
	1417	2345	HARV										
	1430	2400	BOUL										
	2033	2400	CULG										
	2217	2400	MANI										
29	0000	0919	MANI										
	0000	0733	CULG										
	0822	1520	DURN										
	1218	2113	SGMR										
	1418	2345	HARV										
	1430	2300	BOUL										
	2033	2400	CULG										
	2218	2400	MANI										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1975

DEC 1975	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
30	0000	0919	MANI										
	0000	0734	CULG										
	0753	1520	DURN										
	1218	2113	SGMR										
	1418	2345	HARV										
	1430	2400	BOUL										
	2034	2400	CULG										
	2218	2400	MANI										
31	0000	0919	MANI										
	0000	0735	CULG										
	0735	1520	DURN										
	1218	2114	SGMR										
	1418	2345	HARV										
	1430	2400	BOUL										
	2035	2400	CULG										
	2219	2400	MANI										

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

SELECTED SOLAR EVENTS

DECEMBER 1975

Culgoora

UT Date 1975. December	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions		Polarization	Intensity (1-3)		
				Central Dist. ($R_\odot$)	Position Angle (Deg.)				
7	0019	0022	80	0.6	340	0	†	IIIG	*
21	0033	0035	80	1.3	300	0	†	IIIG	

Days without Heliograph observations: NIL

* Other type III bursts observed at same position during day.

† Because of equipment modifications which are in progress, intensity classifications are not available. An indication of intensities can be obtained from corresponding entries in "Solar Radio Emission-Spectral Observations".

COSMIC RAY INDICES

(Neutron Monitors)

DECEMBER 1975

DEC. 1975	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	CLIMAX Average cts/hr	TOKYO Average cts/hr
1	4466.1	7446.3	6986.8	11629.4	-- (0)	6296.2	4192.3(22)	3540.1
2	4457.5	7435.2	6965.7	11579.4	-- (0)	6283.6	4183.9(30)	3533.8
3	4444.9	7408.7	6953.2	11540.8	-- (0)	6266.2	4169.7	3526.5
4	4429.0	7383.6	6951.6	11567.8	-- (0)	6225.9	4185.7	3525.1
5	4434.8	7404.0	6930.5	11577.7	8821.7(3)	6232.9	4179.7	3517.1
6	4447.8	7422.5	6943.3	11607.6	8803.9	6243.7	4170.0	3520.0
7	4452.9	7445.0	6984.8	11621.2	8812.4	6255.1	4174.9	3520.0
8	4477.4	7454.2	7018.8	11666.7	8832.8	6272.0	4198.8	3537.7
9	4474.4	7430.6	7010.1	11653.9	8804.6	6270.3	4197.4	3539.7
10	4448.6	7414.9	6965.8	11660.1	8814.4	6237.3	4186.3	3527.0
11	4451.4	7404.0	6963.6	11699.1	8848.9	6234.7	4194.7	3531.8
12	4461.4	7436.1	6958.5	11682.6	8835.7	6266.4	4185.1	3531.4
13	4474.7	7461.0	6970.8	11678.3	8851.8	6263.1	4200.2	3537.2
14	4465.8	7468.0	6947.0	11671.8	8847.9	6260.1	4201.1	3539.5
15	4476.6	7469.5	6969.4	11641.3	8835.9	6264.5	4188.5	3550.5
16	4478.1	7477.5	7011.0	11628.6	8842.9	6291.5	4192.1	3549.5
17	4487.5	7486.0	7018.5	11641.2	8842.8	6302.9	4214.8	3557.5
18	4490.3	7495.5	7047.7	11656.5	8843.6	6299.7	4215.5	3560.6
19	4500.8	7530.6	7067.9	11702.3	8884.7	6306.0	4220.2	3561.8
20	4513.6	7538.6	7073.8	11760.3	8919.6	6308.7	4227.7	3563.9
21	4533.2	7567.7	7086.7	11778.9	8957.0	6320.8	4239.5	3568.9
22	4533.3	7579.0	7085.9	11798.2	8964.3	6319.1	4246.7	3576.7
23	4541.4	7581.8	7108.9	11841.7	9002.0	6341.6	4266.6	3575.3
24	4556.3	7610.3	7119.1	11874.4	9020.0	6384.5	4280.3	3582.9
25	4547.0	7604.8	7107.8	11863.9	8996.3	6382.6	4282.2	3574.4
26	4509.2	7559.3	7044.3	11793.4	8949.8	6311.3	4243.5	3561.0
27	4473.3	7491.8	7017.7	11703.6	8891.0	6273.4	4235.8	3557.0
28	4490.4	7501.5	7035.3	11711.3	8858.9	6289.2	-- (0)	3541.2
29	4474.2	7467.7	6999.6	11708.5	8857.8	6275.6	4228.8(24)	3544.8
30	4471.1	7485.1	7003.0	11719.8	8875.2	6285.1	4212.4	3547.9
31	4478.1	7506.8	7019.7	11750.8	8915.5	6301.0	4219.9	3548.8
MEAN	4482.0	7482.8	7011.8	11690.7	8876.1	6286.0	4211.5	3546.8

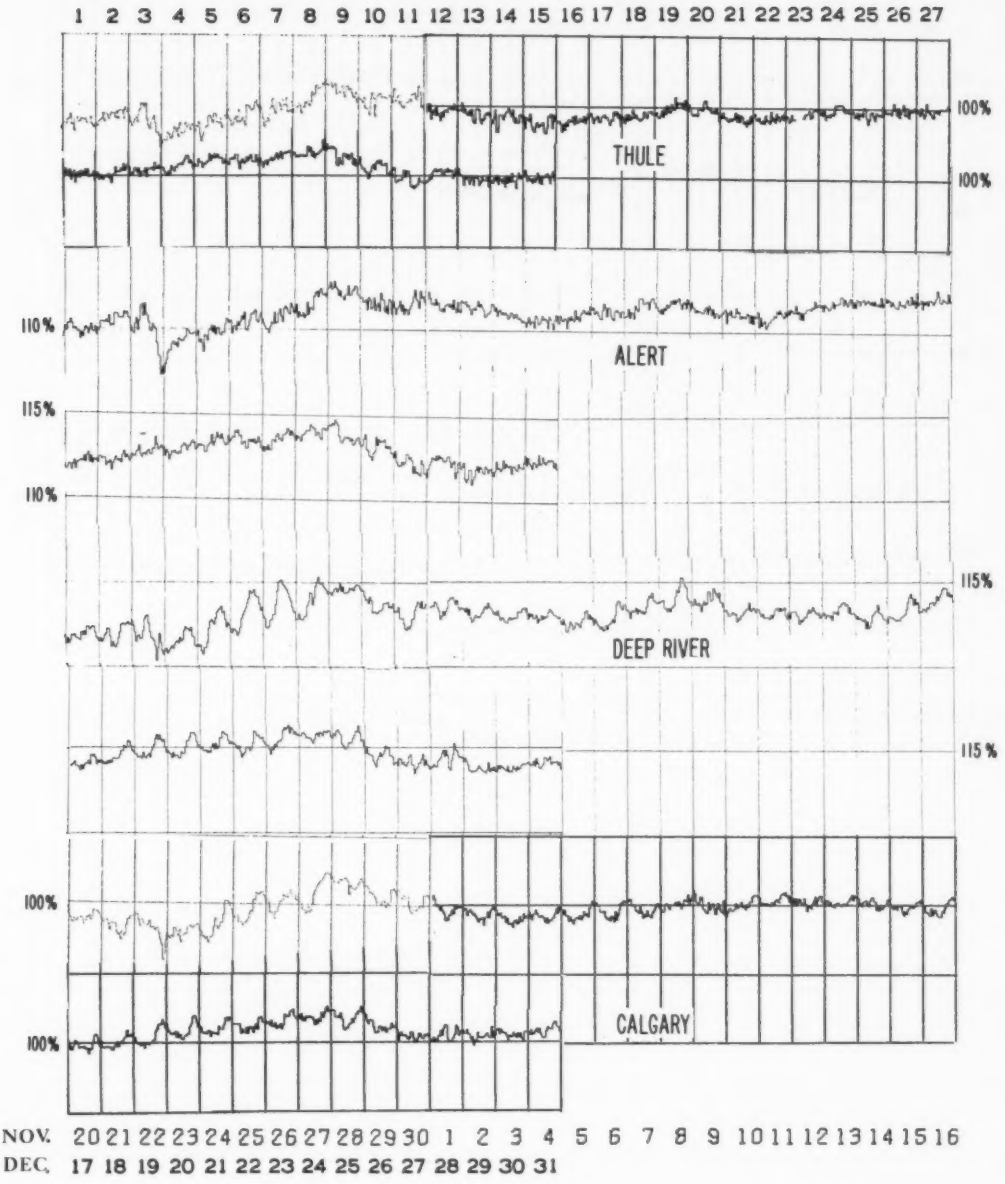
( ) Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo Scaling Factor = 128.

COSMIC RAY INDICES

(Neutron Monitors)

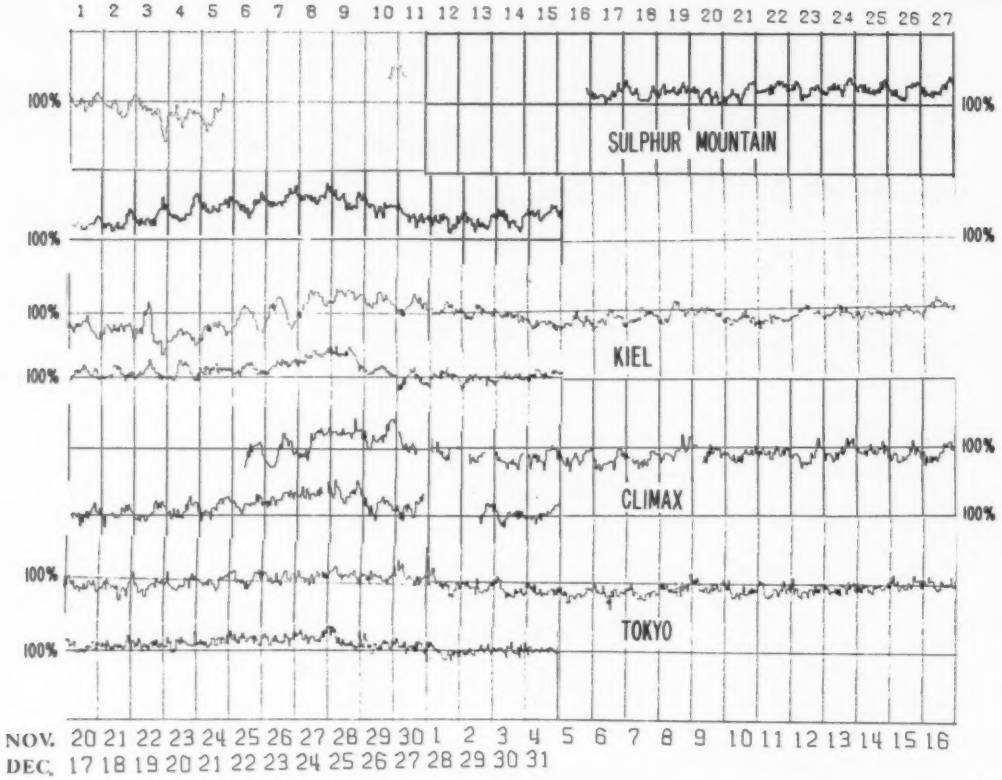
Bartel's Rotations 1946 and 1947



COSMIC RAY INDICES

(Neutron Monitors)

Bartel's Rotations 1946 and 1947



GEOMAGNETIC ACTIVITY INDICES

DECEMBER 1975

Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa				Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M		
1	D	5-	4+	4+	4+	4	5-	4+	4	35-	4-	4-	4-	4	4	4	4	4	32	49	41	42	48	1.3
2	D	4	4	4+	5-	4-	3	4	4	32-	3+	3+	3+	4	4-	3	4-	3+	27	44	46	47	43	1.2
3		4-	2-	2+	3	3	3-	2+	3-	21+	3	1+	2-	3-	3	3-	2+	3-	12	25	22	23	25	0.7
4		3	3-	2+	3+	3+	3+	2	1+	21+	2+	2-	2	3	3+	3-	1+	1+	13	21	21	19	24	0.7
5		2+	1+	2+	2	3-	2+	2+	2	17+	2-	1	2	2+	3-	2	2+	2-	8	17	17	13	22	0.5
6		1	2	1-	2-	3-	2	2+	2-	14	1+	2-	1-	2	3-	2	2+	2-	7	17	13	10	21	0.3
7	QQ	1+	1-	1	1-	0+	1*	1+	1	8-	1-	1	1	1	0+	1+	1+	1+	4	11	7	8	10	C	0.1
8	D	2	4	3-	2-	3-	4-	4-	5-	25	2	3	1*	2-	3-	4-	4-	5-	18	34	35	19	51	1.0
9		5-	3	1+	4-	4	3	1-	1+	22-	4-	3-	2-	3*	4	3	1-	2-	16	25	33	34	24	0.9
10		0+	0+	1-	3-	4-	3	0+	1+	12+	1-	0+	1-	2+	4-	3-	0+	1	8	12	18	8	22	0.4
11	Q	1-	1+	2+	2-	1-	1+	2+	1-	11	1-	1	2-	2-	1+	2-	2+	1-	5	12	13	11	13	C	0.2
12	QQ	1+	1-	1-	1-	0+	0+	0+	1-	5	1	1	1	1+	0+	0+	0+	1-	3	4	9	8	5	CC	0.1
13	QQ	0	0	0+	1-	0+	2-	1	1	5	0	0+	1-	1	1-	1+	1+	1	3	6	6	4	8	CC	0.0
14	Q	1	0+	1	1	2	2	2	3-	12	1-	0+	0+	1+	2+	2	2+	3	6	13	15	7	22		0.3
15		3+	3-	2+	1+	2-	2-	1*	2+	17-	3	2	2	2-	2	2-	2-	3-	9	18	20	24	14		0.5
16		3+	4-	3-	3-	2	3-	3	3	23	3-	3	2	2	2-	3-	3-	3-	14	26	22	22	26		0.8
17		2	4-	2-	1-	2-	3-	2-	2+	16+	1+	3	2-	1	2-	2+	2+	2+	9	17	18	15	21		0.5
18	Q	2+	2-	1	1+	2	2-	2-	2	14-	2-	1	1	1	2+	2-	1+	2	6	13	14	11	17		0.3
19	Q	1+	2+	1-	1	2	3-	1	0+	11+	1	2-	1	1+	2+	3-	1-	0+	6	12	13	10	15	KK	0.3
20	QQ	1	3-	1-	0+	0	0	0	0+	5	1-	2-	1-	0+	0	0	0+	0+	3	7	7	10	4	CK	0.1
21		1	1-	1-	2+	3+	3	3-	2	16-	1	1-	1-	3-	3+	3	3-	2+	9	17	24	13	27		0.5
22		4-	2+	2+	2	2-	2+	3-	2+	19+	3	2-	2+	2-	2+	2	3-	2+	10	22	19	22	21		0.6
23		2-	3	2	1+	2-	1-	2	2+	15-	1+	2	1+	1+	2	1-	2-	2+	7	12	17	15	15	K	0.4
24	QQ	0	1-	0	0	0	0+	2-	2	5-	0	1-	0	0	0	0+	2	2	2	9	5	4	10	C	0.0
25		3	4-	4-	3	4-	3	2	4	26	3-	3	3+	3-	4-	3-	2+	4-	18	29	39	34	34		1.0
26	D	4+	4-	4+	4	3-	3	3	4	35	3+	3	4-	3+	3-	3-	4+	3+	34	55	54	39	71		1.4
27	D	3+	4+	5	3	3-	5+	5	4-	32*	2+	4	4	2+	3-	3-	4+	3+	31	47	56	46	57		1.3
28		4+	3+	3	2	1	3-	2	4-	22	4-	3-	2+	2+	1+	3-	3-	3	15	24	24	27	21		0.8
29		3	4-	3+	3-	3	2+	4-	2+	24	3-	2+	3	3-	3	2	4-	2	15	26	25	26	25		0.9
30		4-	3+	2+	2+	2	2-	3-	2	20	3	3-	2-	2+	2	2-	2+	2	11	17	23	21	19		0.6
31	Q	3	3-	1	1	1-	1	2-	2	13	2	2	1	1	1	2-	2-	2	7	15	11	16	10	KK	0.3
																		Mean	12	21.2	22.2	21.7			0.58

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	4	4	4-	4+	4	4*	4	4-	4-	3-	3+	4-	4	4-	4-	4+
2	4-	4-	4-	4+	4-	3	4	4-	3	3-	3	4-	3+	3	3	3
3	3	1+	2	3	3	3-	2	3-	3	1+	2-	3-	3	3-	2+	3-
4	3-	2	2	3	3+	3	1	1	2	1+	2	3-	3	3-	2-	2-
5	2-	1	2	2+	3-	2+	3-	2	1*	1-	2-	2	3-	2	2	1+
6	1+	2-	1-	2-	3	2	3-	1+	1	1+	1-	2	3-	2	2+	2-
7	1-	1	1	1-	0+	1*	1+	1	1-	1	1	1	0+	1+	1+	1+
8	1+	3	2-	2-	3-	4	4-	4+	2+	3	1+	2	3-	4-	4-	5-
9	4	2+	1+	3+	4	3	1-	2-	3+	3-	2	3+	4-	3	1-	2
10	0+	0+	0+	3-	4-	3	0	1	1-	0+	1	2+	3+	2+	1-	1
11	1-	1	1+	1+	1+	2-	2-	0	1	1	2-	2	1+	2-	3-	1
12	1-	1-	1	1	0	1-	0	0+	1*	1*	1+	1+	0+	0+	0+	1-
13	0	0	0+	1-	1-	2-	1*	1-	0	1-	1	1	1	1+	1+	1
14	0+	0+	1+	1	2	2	2	3-	1+	0+	1+	1+	2+	2+	3-	3
15	3	2+	2	1+	2-	2-	1*	3-	3-	2-	2	2-	2	2	2+	3-
16	3-	3	2+	2	2-	3-	3-	3-	3-	3-	2	2	2-	3-	3-	3-
17	1+	3	1+	1	2-	3-	2	2+	2-	3+	2-	1+	2-	2+	2+	3-
18	1+	1+	1	1	2+	2	1+	2-	2	1	1	1	2	2-	2-	2
19	1	2-	1	1	2+	3-	1-	1-	1	1+	1	1+	2	2	1-	0+
20	1-	2-	1-	0	0	0	0+	0+	1-	1+	1	1-	0	0	1-	1-
21	1	0+	1-	2+	3+	3	3-	2-	1	1-	1-	3-	3+	3	3-	3-
22	3	1+	2	2-	2-	2	3-	2	3	2	2+	2-	3-	2	3-	2+
23	1+	2+	2-	1+	2+	1	2-	2+	2-	2-	1+	1	1-	1-	2-	2
24	0	1-	0	0	0	0+	2	2	0	1	0	0	0	0+	2-	2
25	3-	3	3	3-	4	3	2	4-	3-	3	3+	3-	3+	3-	3-	3
26	4-	3	4	4-	5-	5	4+	3+	3+	3-	4-	3+	5-	4+	4+	4-
27	2+	4	4-	2+	3	5	4+	3+	3-	4-	4	2+	3-	5-	4+	3
28	4-	3	2+	2	1	3	3-	3+	4-	2+	2+	3-	2-	3-	3-	3-
29	2+	3-	3	3-	3+	2+	4-	2	3-	2+	3-	3-	3-	2-	3+	2+
30	3	3	2	2+	2	2-	2	2	3	2	2-	2+	2	2-	2+	2+
31	2+	2+	1+	1+	1+	2-	2	2-	2-	1+	1-	1	1	1+	1+	2

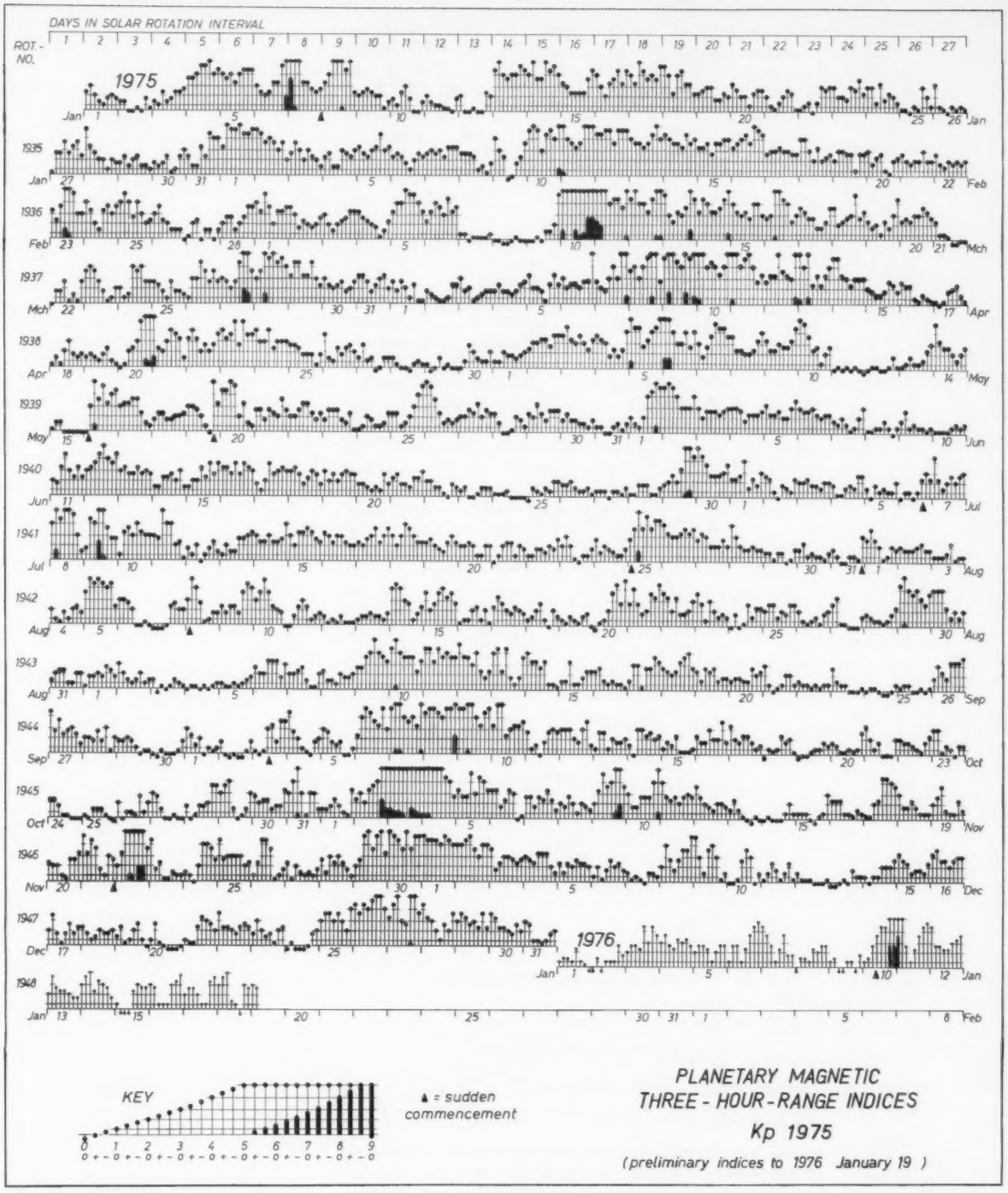
GEOMAGNETIC ACTIVITY INDICES

Kp Chart for year on following page.

DAILY AVERAGE INDICES Ap

1975

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7	37	21	7	0	24	12	9	7	6	7	32
2	4	23	10	5	16	28	6	7	6	2	36	27
3	7	12	11	6	19	12	7	5	3	11	65	12
4	32	10	9	7	14	11	6	6	3	9	41	13
5	27	17	30	10	34	12	5	29	4	6	22	8
6	26	8	20	15	35	11	6	7	13	25	11	7
7	44	15	7	25	22	6	12	5	7	38	10	4
8	36	5	2	32	14	4	37	14	6	45	7	18
9	7	11	8	52	16	5	35	15	24	37	37	16
10	6	34	80	35	19	4	17	15	26	24	20	8
11	4	36	53	34	2	14	18	7	26	8	13	5
12	4	35	37	27	3	27	5	4	19	12	9	3
13	32	27	29	29	0	14	10	5	17	7	4	3
14	33	22	29	21	14	8	13	16	13	9	3	6
15	15	21	20	7	3	13	15	13	8	5	4	9
16	21	32	27	6	28	17	12	5	6	10	6	14
17	29	14	13	5	14	12	14	9	13	8	17	9
18	22	15	17	6	7	12	15	6	14	4	7	6
19	10	11	11	5	15	12	9	4	8	3	8	6
20	10	9	14	25	23	6	6	15	7	5	9	3
21	6	8	3	23	12	9	6	17	6	6	18	9
22	8	7	6	15	11	5	6	12	4	6	50	10
23	12	32	13	25	8	4	6	10	4	7	8	7
24	10	17	14	17	5	3	6	6	2	4	13	2
25	5	20	8	8	14	4	33	9	3	4	15	18
26	5	9	11	9	18	5	19	5	14	5	14	34
27	14	5	34	5	10	4	11	6	14	5	5	31
28	12	12	36	3	5	4	10	5	8	9	9	15
29	6		22	2	11	26	4	27	5	12	29	15
30	7		10	6	0	22	5	14	2	9	36	11
31	16		13		4		5	6		19		7
MEAN	16	15	20	16	13	11	12	10	10	12	18	12

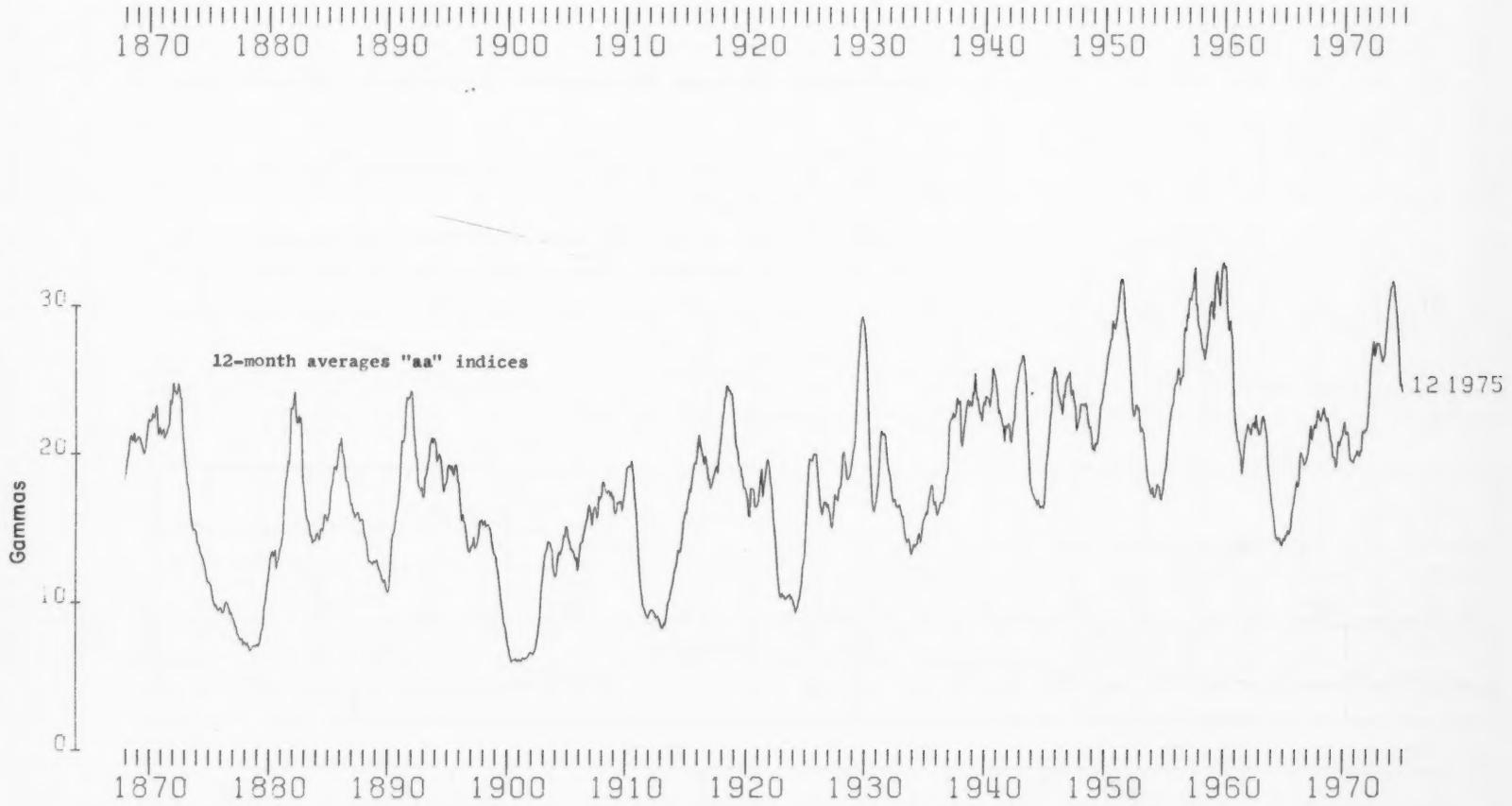

DAYS IN SOLAR ROTATION INTERVAL
ROT. NO.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
1975
Jan 1 5 10 15 20 25 26 Jan
1935 Jan 27 30 31 1 5 10 15 20 22 Feb
1936 Feb 23 25 28 1 5 10 15 20 21 Mch
1937 Mch 22 25 30 31 1 5 10 15 17 Apr
1938 Apr 18 20 25 30 1 5 10 14 May
1939 May 15 20 25 30 31 1 5 10 Jun
1940 Jun 11 15 20 25 30 1 5 7 Jul
1941 Jul 8 10 15 20 25 30 31 1 3 Aug
1942 Aug 4 5 10 15 20 25 30 Aug
1943 Aug 31 1 5 10 15 20 25 26 Sep
1944 Sep 27 30 1 5 10 15 20 23 Oct
1945 Oct 24 25 30 31 1 5 10 15 19 Nov
1946 Nov 20 25 30 1 5 10 15 16 Dec
1947 Dec 17 20 25 30 31
1976 Jan 1 5 10 12 Jan
1948 Jan 13 15 20 25 30 31 1 5 8 Feb
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE - HOUR - RANGE INDICES
Kp 1975
(preliminary indices to 1976 January 19)

R9	Rot.-No.	1st day	C9
455 422 442	19	J 1	3..355 244 666 422 2..365 35 556 654 44
2 346 423	73	J28	654 44 422 446 532 2. 234 332 777 766 755
333 346 532		F24	766 755 64. 62 232 24. ..3 57 777 777 665
334 565 432	1910	M23	777 665 446 876 2.. .2. .5. 72 777 777 764
355 435 42.	11	A19	777 764 466 675 432 24 443 .2 576 665 567
344 42. 33	12	M16	665 557 54. .33 2.. ..5 453 2.. 266 655 375
433 544 334	13	J12	655 335 665 .2 6.. .57 653 2.. ..3 2.. 22
3 2 2.. 22	14	J9	2.. 22 64. 32 .4 .2 6645 563 42 232 2..
33. .. 235	15	A5	232 2.. .32 .. 2 3 576 566 542 .. 342
775 3 2 245	16	S1	.. 342 227 632 2.3 42. 344 766 6.. .. 67
553 2.. 2.2	17	S28	. .67 333 .2 534 42. 665 556 52 .. 576
453 2.. 2	18	O25	.. 576 5.2 54 263 32. 32 234 5.. 5 2 675
345 3.. 2	19	N21	5 2 675 4.. .. .64 32. 522 .. 2.. .46 665
344 .. .34	1920	D18	.46 665 .. .35 444 234 43. 2 4 .. 244 462
543	19	J14	244 462 44. .7 665 555 432 222 3.. 466 53.
234 332 2 2	74	F10	466 53. 23. .35 476 666 655 525 534 666 424
232 222 22		M9	666 424 .72 ..5 767 665 556 554 466 565 446
245 643 222	1924	A5	565 446 5.. .. .76 766 655 555 542 5666.4
666 42. .2	25	M2	566 6.4 33. .. 366 655 555 664 343 246 655
.35 543 22.	26	M29	246 655 2.. .2 466 556 442 352 222 277 654
36 64 2 344	27	J25	277 654 232 678 464 545 353 22. .32 277 556
443 323 454	28	J22	277 556 532 .5 655 554 443 .. .. .. 267 666
332 .2 345	29	A18	267 666 632 556 456 645 543 2.. .4 277 .56
55. 24 467	1930	S14	277 .56 676 466 664 456 632 23. 363 .47 677
642 .2 223	31	O11	.47 677 776 734 .65 666 532 .. .2 256 277
.2. 233 2..	32	N7	256 277 663 442 355 546 542 .. .44 2.. 247
.2 333 3 2	1933	D4	2.. 247 555 534 256 655 444 335 33. 42. 266
222 322 22.	19	D31	42. 266 676 2.. .66 456 533 .23 3.. 43. 246
.. 22	75	J27	43. 246 533 424 236 666 656 443 222 645 2.3
.. .. 2 22.		F23	645 2.3 533 265 ..2 776 665 644 34. .34 246
.. ..	1937	M22	.34 246 652 32. .22 466 766 665 2.. .6546
.. 222 ..	38	A18	.6546 422 ... .4 546 654 45. ..4 .64 245
.. ..	39	M15	.64 245 332 .45 3.3 .56 33 33. ... 464 234
.. .23 222	40	J11	464 234 333 .2. ... .. 653 .. .. .3 664 5.2
233 222 223	41	J8	664 5.2 443 442 .. .. .6533 ... 2.. .6. .44
665 322 ..	42	A4	.6. .44 4.. .45 .2. .44 32. 2.. .64 ... ...
222 .2. 22.	43	A31	... ... 3.. 566 543 2.3 42. ... ..4 42. ...
.. .. 2 22.	44	S27	42. ... 32. 667 66. 322 .22 ... ... .23
... .22 223	45	O24	... .23 252 677 533 .65 42. ... 4.2 257 244
3.. .22 ..	46	N20	257 244 4.2 666 633 2.. 542 ... .24 2.. .23
.. ..	1947	D17	2.. .23 2.5 664 43. ..5 424 4.. 774 24. 433
	19	J13	24. 633 preliminary
	76	F9	
		M7	

Symbol	.	,	2	3	4	5	6	7	8	9
$\overline{R}$ =	0	1-15	16-30	31-45	46-60	61-80	81-100	101-130	131-170	171...
R9,C9 =	0	1	2	3	4	5	6	7	8	9
Cp =	a0-a1	a2-a3	a4-a5	a6-a7	a8-a9	1.0-1.1	1.2-1.4	1.5-1.8	1.9	2.0-2.5

DAILY GEOMAGNETIC CHARACTER FIGURES C9 AND 3-DAY MEAN SUNSPOT NUMBERS R9

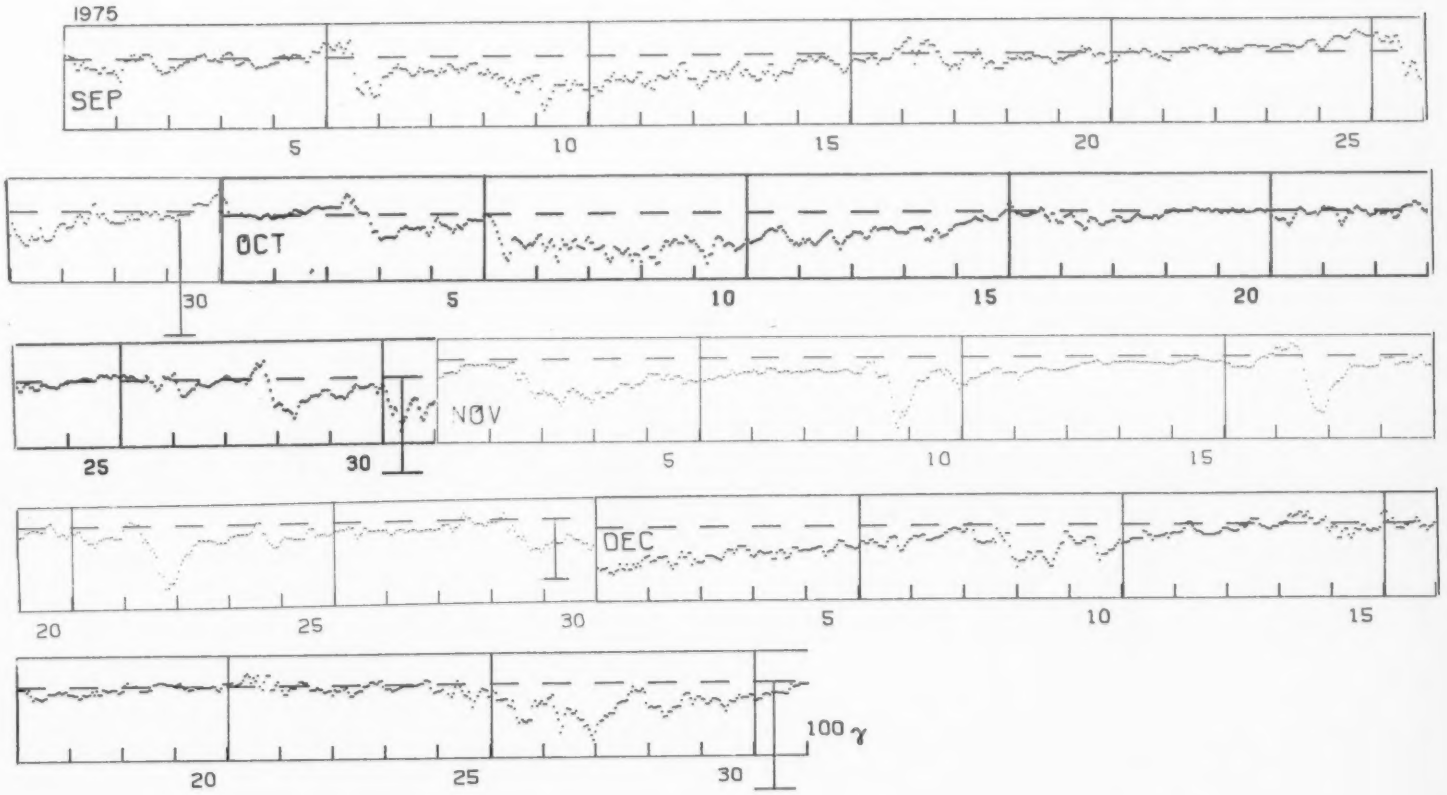
For explanation and previous years see J. Bartels, Abhandlungen der Akademie der Wissenschaften zu Göttingen, Beiträge zum I.G.J., Heft 3 (1958) (may be requested from Institut für Geophysik, Postfach 876, 34 Göttingen, Germany).



The above graph is computed from a series of points based on yearly averages of "aa" indices. The ordinate of each point (one point per month) is a twelve month average such that the points plotted at the marked ten year intervals are in each case averages for January to December of that year. The graph begins with the average for 1868 and ends with the average for 1975. This graph was provided by Dr. P. N. Mayaud of the Institut de Physique du Globe, Paris, France, who also provides the daily values of "aa" on a monthly basis.

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst



Note the changes in sensitivity as well as the changing 0 reference level.

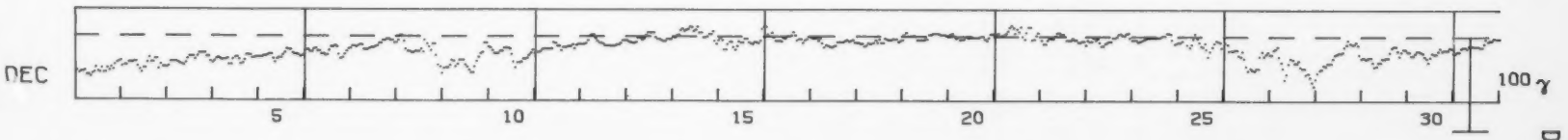
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

DECEMBER 1975

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-37	-40	-38	-38	-37	-42	-42	-44	-41	-39	-34	-38	-40	-35	-39	-39	-35	-37	-34	-36	-31	-29	-27	-26
2	-33	-31	-31	-29	-29	-29	-27	-27	-33	-35	-39	-35	-34	-28	-24	-28	-29	-25	-25	-36	-31	-33	-33	-34
3	-32	-28	-27	-28	-28	-29	-30	-31	-32	-29	-25	-22	-22	-22	-25	-22	-19	-18	-19	-18	-22	-22	-27	-29
4	-27	-25	-23	-25	-26	-25	-25	-24	-31	-31	-25	-23	-22	-25	-30	-29	-26	-20	-20	-21	-23	-23	-22	-22
5	-23	-22	-21	-21	-20	-19	-20	-24	-28	-25	-23	-23	-21	-18	-14	-15	-15	-18	-20	-20	-21	-22	-21	-19
6	-15	-15	-17	-17	-14	-13	-16	-17	-19	-19	-21	-20	-16	-12	-12	-10	-12	-20	-24	-23	-20	-17	-14	-13
7	-11	-11	-12	-10	-9	-10	-14	-15	-15	-13	-12	-12	-11	-10	-8	-8	-5	-5	-3	-4	-5	-5	-7	-7
8	-5	1	0	-6	-14	-16	-17	-18	-18	-16	-17	-16	-14	-17	-4	-8	-11	-15	-8	-8	-21	-31	-33	-40
9	-34	-33	-34	-31	-26	-27	-33	-30	-26	-25	-25	-31	-33	-36	-39	-39	-32	-27	-23	-19	-17	-7	-8	-11
10	-13	-15	-18	-19	-19	-16	-16	-13	-12	-13	-14	-20	-28	-34	-29	-28	-27	-25	-25	-23	-21	-18	-15	-18
11	-17	-17	-16	-14	-13	-14	-14	-14	-13	-6	-8	-10	-11	-15	-12	-12	-11	-10	-11	-9	-13	-10	-8	-8
12	-8	-8	-7	-5	0	2	1	-2	-5	-7	-8	-9	-10	-10	-10	-11	-11	-10	-9	-9	-7	-5	-4	-5
13	-6	-7	-8	-8	-6	-2	-2	-4	-2	1	4	3	3	3	-1	-3	-3	-5	-6	-5	-3	-4	-3	-1
14	-2	1	2	6	8	6	7	8	10	9	6	7	10	3	3	-1	-1	0	2	2	5	-5	-8	-5
15	-2	-4	-14	-14	-8	-6	-6	-12	-14	-11	-6	-7	-7	-3	-3	-6	-8	-9	-6	-7	-8	-5	8	10
16	10	2	0	3	-1	-5	-5	-5	-6	-2	-3	0	-1	1	4	1	-5	-3	-3	-7	-5	-3	-1	-2
17	-3	-2	-3	-5	-3	-8	-12	-10	-11	-12	-13	-11	-10	-7	-7	-7	-6	-5	-4	-6	-5	-4	-7	-8
18	-8	-9	-9	-11	-10	-8	-9	-8	-7	-5	-7	-4	-7	-7	-3	-4	-5	-4	-3	-4	-3	-6	-5	-4
19	1	3	0	-1	0	1	-1	-4	-5	-4	-5	-3	-3	1	2	3	3	3	2	1	1	1	0	0
20	2	3	0	-2	-1	-4	-3	-3	-1	-2	-2	-1	-2	-2	-2	-1	0	-1	-3	-5	-2	2	2	2
21	2	3	0	1	2	3	5	9	11	9	3	7	5	10	0	-3	4	10	10	-4	-3	0	3	0
22	-4	-8	-9	-5	-2	-3	-2	0	3	4	2	2	0	-4	-4	-5	-2	-4	-4	-6	-7	-5	-5	-9
23	-5	-6	-5	-2	-4	-2	-6	-10	-10	-8	-6	-5	-6	-2	-2	0	2	3	1	0	3	4	-2	-4
24	-4	-4	-6	-5	-4	-3	-2	-1	-2	-1	-2	-2	-1	-1	0	1	1	3	3	2	-4	-8	-7	-6
25	-7	-5	-1	0	-9	-12	-9	-2	3	-2	-6	-10	-12	-8	-14	-22	-16	-12	-8	-5	-6	-7	-13	-13
26	-7	-9	-16	-15	-15	-14	-14	-21	-22	-16	-24	-32	-37	-34	-36	-37	-34	-34	-21	-17	-21	-19	-17	-19
27	-19	-15	-13	-11	-22	-28	-34	-46	-40	-29	-24	-25	-28	-29	-25	-33	-34	-34	-41	-39	-43	-49	-53	-45
28	-38	-36	-34	-31	-32	-29	-28	-28	-24	-20	-18	-17	-18	-16	-11	-9	-4	-7	-9	-8	-6	-9	-19	-23
29	-22	-24	-23	-22	-23	-27	-32	-31	-28	-27	-24	-24	-22	-22	-17	-12	-10	-11	-15	-21	-17	-14	-14	-16
30	-17	-20	-20	-18	-16	-15	-17	-18	-21	-23	-27	-22	-18	-19	-19	-16	-13	-15	-14	-15	-15	-12	-13	-17
31	-18	-16	-16	-13	-11	-11	-13	-10	-10	-10	-11	-11	-10	-12	-11	-8	-3	-5	-4	-4	-2	-3	-2	-3



PRINCIPAL MAGNETIC STORMS

DECEMBER 1975

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
WI	54.2N	1	00--	..	..	..	..	01(6,7)	6	29	150	60	03	01
AL	09.5N	1	06--	..	..	..	..	01(6)	5	4	68	19	01	23
AN	01.5N	1	06--	..	..	..	..	--	-	4	68	40	01	23
HU	00.6S	1	0137	..	..	..	..	01(5,6)	5	7	115	36	03	01
TV	01.1S	1	06--	..	..	..	..	--	-	3	72	62	01	23
AL	09.5N	8	11--	..	..	..	..	08(8)	5	2	54	11	09	02
HO	07.6N	8	0030	..	..	..	..	08(8)	5	3	97	14	09	23
AN	01.5N	8	11--	..	..	..	..	--	-	2	49	23	09	02
TV	01.1S	8	11--	..	..	..	..	--	-	3	51	50	09	02
HR	33.7S	8	11--	..	..	..	..	08(6,8)	5	15	58	60	09	01
HO	07.6N	21	1030	..	..	..	..	21(5,6,7)	4	2	63	11	22	23
AL	09.5N	24	24--	..	..	..	..	25(3,5) 26(5,6) 27(2)	5	4	99	27	27	00
HO	07.6N	24	2000	..	..	..	..	26(5,6) 27(7)	5	5	103	21	27	23
AN	01.5N	24	24--	..	..	..	..	--	-	3	111	37	27	00
TV	01.1S	24	24--	..	..	..	..	--	-	3	129	78	27	00
NE	55.1N	25	00--		..	..	..	26(5,6) 27(2,3,6)	5	45	130	121	28	09
WI	54.2N	25	20--	..	..	..	..	26(6,7) 27(6,7)	6	37	250	70	28	06
FR	49.6N	25	23--	..	..	..	..	26(3) 27(2,6)	5	26	140	45	28	07
BO	48.9N	25	04--	..	..	..	..	26(5)	5	26	113	52	28	11
TU	40.4N	25	01--	..	..	..	..	26(3,5,6,7) 27(2)	5	13	115	20	28	12
HU	00.6S	25	0232	..	..	..	..	26(6)	6	9	239	52	27	23
PM	19.7S	25	02--	..	..	..	..	27(6)	5	9	100	--	29	17
GN	43.2S	25	03--	..	..	..	..	26(5) 27(6)	6	20	90	90	29	09
TO	46.7S	25	03--	..	..	..	..	26(5,6) 27(2,3,6)	5	20	120	60	28	09
CO	64.6N	26	08--	..	..	..	..	26(5) 27(6)	7	259	1780	820	28	06
HR	33.7S	26	11--	..	..	..	..	26(6)	5	14	86	66	26	22
HR	33.7S	27	14--	..	..	..	..	27(6,7)	5	10	77	86	28	02

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

DECEMBER 1975

PRELIMINARY REPORT ON RAPID VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc and si are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

n o n e

Sudden impulses found in the magnetograms (si)

09 1225: A: LG HU LM DU; B: EB? CI PP? (bp: C: KA; sfe: BA)

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

11 1625 - 1634 LG
13 1603 - 1614 LG
14 1247 - 1302 LG SZ (ssc: B: BA - cr: B: PP?)

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

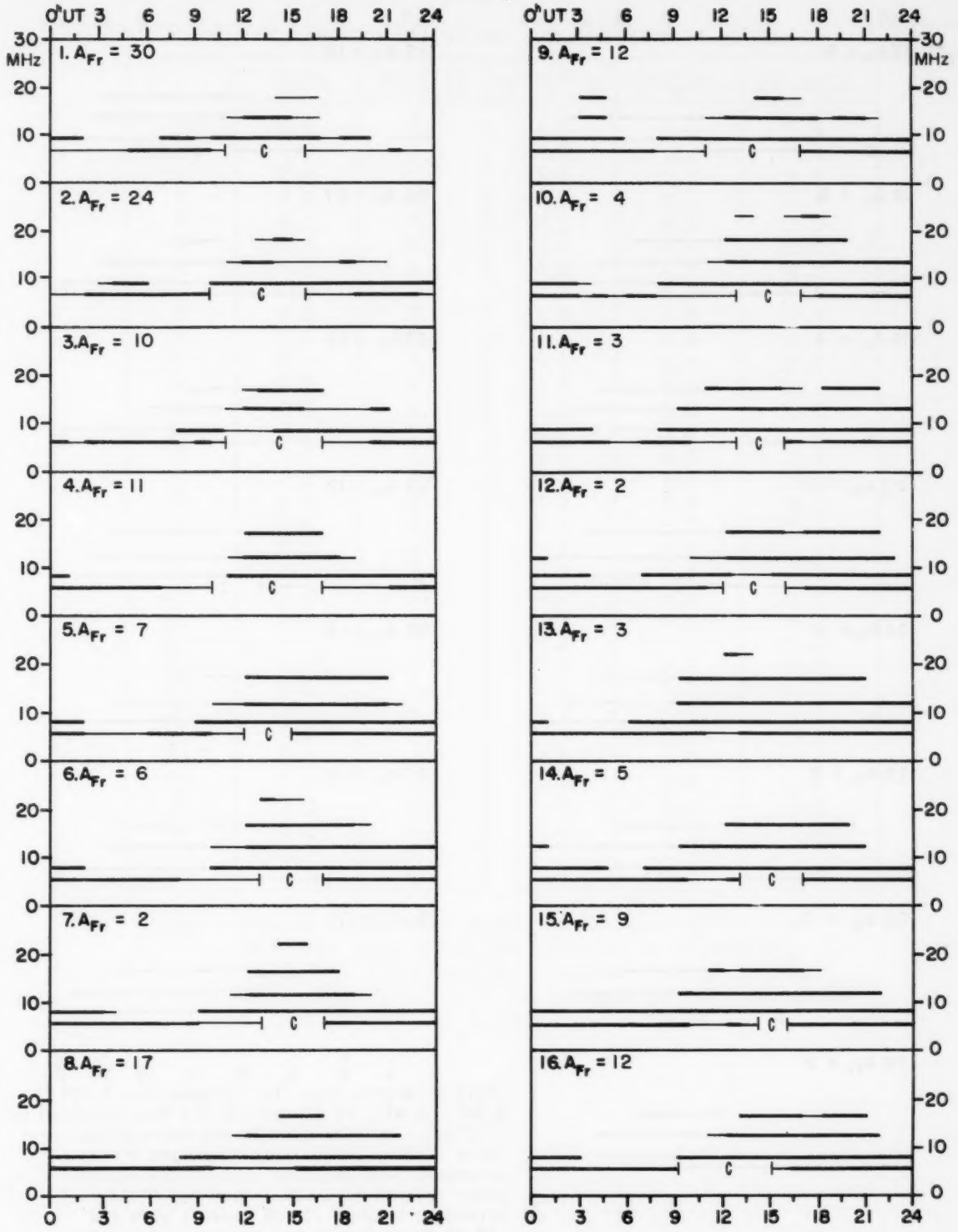
DECEMBER 1975

North Atlantic

DEC 1975	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	5o	4	5+	4+	5o	5-	4	4	4	5	(5)	(4)	30
02	5o	5	5-	5+	5+	5o	4	4	4	5	(4)	3	24
03	5+	5	5+	5+	6-	5-	4	4	5	5	2	2	10
04	5o	5	5-	5o	6-	5-	5	5	5	6	3	2	11
05	6-	5	5-	6o	6o	5+	5	5	5	6	2	2	7
06	6-	5	5+	6o	6o	5+	5	5	5	5	2	1	6
07	6-	5	6-	5+	6o	6o	5	5	5	5	1	0	2
08	6-	5	6+	5o	7-	6-	5	5	5	5	2	(4)	17
09	6-	5	5+	6-	6-	5+	5	5	5	5	3	2	12
10	5+	5	5+	5+	6-	5+	5	5	5	6	1	1	4
11	6-	6	5+	5-	6o	6o	5	5	5	6	1	1	3
12	6o	6	6o	6-	6o	6o	6	6	6	6	1	0	2
13	6o	6	6o	6o	6o	6o	5	5	5	5	1	1	3
14	6o	6	6o	6o	7-	6o	5	5	5	5	1	2	5
15	6o	6	6o	6-	6+	6o	5	5	5	6	3	1	9
16	6-	6	6o	5+	6o	6-	5	5	5	5	3	2	12
17	6-	6	6-	6o	6+	5+	5	5	5	6	2	2	9
18	5+	5	5-	6-	6o	6-	5	5	5	6	2	1	5
19	6o	5	5+	6o	7o	5+	5	5	6	6	2	1	4
20	6-	5	5o	5+	6+	6-	5	5	6	6	1	0	2
21	6o	5	5o	6o	6+	6o	5	5	6	6	1	3	8
22	6o	5	6-	6-	7-	6-	5	5	5	5	2	2	8
23	6-	5	6-	6-	6+	6-	5	5	5	6	2	1	6
24	6-	5	5o	6-	7-	6-	5	6	5	6	1	0	2
25	6-	6	5+	6+	6o	6-	5	5	5	5	3	3	18
26	5+	5	5+	6-	5+	5o	5	4	5	4	(4)	(4)	27
27	6-	4	6-	5+	6o	6-	4	4	5	4	(4)	(4)	25
28	6o	4	6-	5+	6+	6+	4	4	4	4	3	2	12
29	6-	5	6-	5o	6-	6o	5	5	5	5	3	3	13
30	6-	5	6-	5o	7-	6o	5	5	5	6	3	2	10
31	6-	5	6o	5o	6-	6+	5	5	5	6	2	2	7

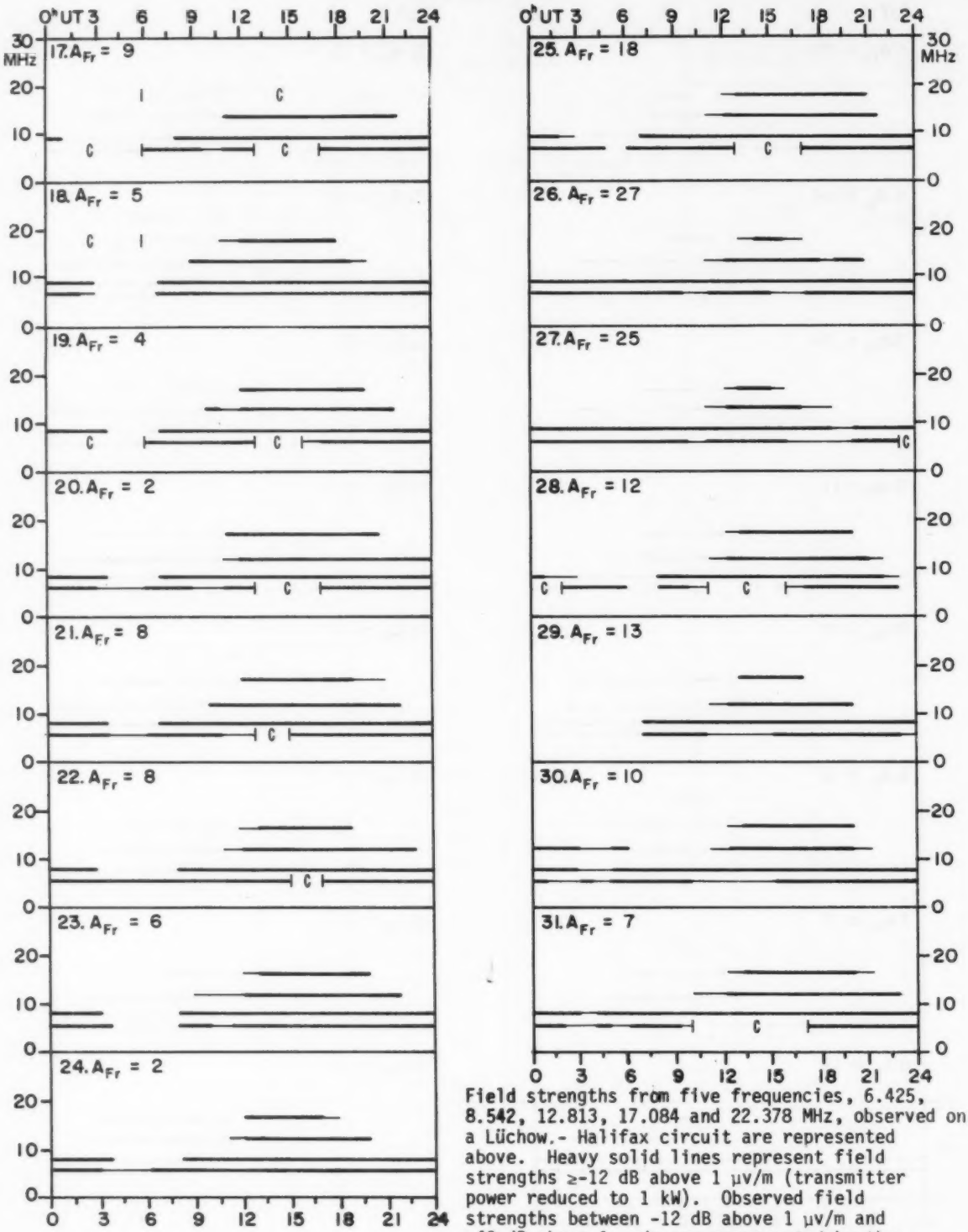
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1975



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1975



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow.- Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. Adapted from Observations by Deutsche Bundespost

USCOMM - ESL

RADIO PROPAGATION QUALITY INDICES

DECEMBER 1975

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MAURITIUS	CANBERRA	BRACKNELL
1	6.6	4.2	4.3	5.0	13.4
2	6.6	4.5	4.8	5.1	13.4
3	6.6	5.0	4.5	5.5	12.8
4	6.4	4.3	3.9	4.3	12.9
5	6.3	6.3	4.1	4.8	12.8
6	7.1	6.4	5.4	4.9	13.2
7	7.3	6.4	4.3	4.9	12.3
8	7.5	7.0	3.5	5.1	13.5
9	8.0	5.6	5.4	5.4	12.7
10	7.6	6.6	4.6	4.8	12.6
11	6.7	7.6	5.1	5.5	13.4
12	7.5	6.7	4.8	5.8	13.1
13	7.5	8.2	5.5	6.0	13.5
14	7.7	7.3	4.2	6.4	13.2
15	7.7	7.5	4.2	6.0	13.4
16	8.2	7.4	5.3	6.3	13.0
17	8.0	6.4	4.7	5.9	13.0
18	8.6	5.9	5.2	5.5	13.3
19	8.6	6.9	5.4	5.6	13.1
20	8.3	6.7	4.8	5.4	13.5
21	8.0	7.3	4.0	5.5	13.2
22	8.4	7.2	4.7	6.1	14.1
23	8.1	6.7	4.8	5.7	14.0
24	8.0	6.4	4.0	5.4	13.8
25	8.7	7.9	4.5	6.2	14.4
26	8.7	6.3	4.7	6.3	14.0
27	8.0	5.5	3.8	5.5	13.3
28	8.1	3.9	3.5	5.0	12.7
29	7.4	5.5	3.3	5.4	12.4
30	7.3	5.8	3.3	5.1	12.6
31	8.1	6.3	3.3	5.1	13.0
MEAN	7.7	6.3	4.4	5.5	13.2

Note: Reduced transmitter power and the shut off of the 13034 kHz transmitter has resulted in uncertainty in the Mauritius Quality Indices beginning December 1975. The circuit will be replaced by the recordings of five frequencies on Moscow - Lüchow (1,700 km).

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